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Publications

Ontario Legislative Assembly
Sessional papers

P-20

SESSIONAL PAPERS.

VOL. XXI.—PART IX.

THIRD SESSION OF SIXTH LEGISLATURE

OF THE

PROVINCE OF ONTARIO.

SESSION 1889.

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LIST OF SESSIONAL PAPERS.

ARRANGED ALPHABETICALLY.

Title.	No.	Remarks.
Accounts (*Dominion and the Provinces*)	46	*Printed.*
Accounts, Public	15	"
Agricultural and Arts, Report	8	"
Agricultural College, Report	21	"
Agricultural and Experimental Union, Report	7	"
Agricultural Societies, Analysis	27	*Not printed.*
Anglin's Report, Ontario's Exhibit	30	*Printed.*
Archæological Report	42	"
Asylums, Report	1	"
Beach, Asa, appointment of	28	*Not printed.*
Bee-keepers' Association, Report	29	*Printed.*
Births, Marriages and Deaths, Report	9	"
Blind Institute, Report	4	"
Borron, E. B., Report	31	"
Boundaries, Argument and Case	60	"
Canada Temperance Act, moneys paid counsel	72	*Not printed.*
Canadian Institute, Report (part of)	6	*Printed.*
Common Gaols, Report	2	"
Crown Lands, Report	26	"
Dairying at Agricultural College, Report (*part of No. 8*)	48	*Printed.*
Deaf and Dumb Institute, Report	3	"
Division Courts, Report	43	"
Drainage in Lambton	47	"
Drainage, Tile, Stone and Timber	78	*Not printed.*
Dundas License Returns	28	"
Education, Report	6	*Printed.*
Education, Technical, Report	22	"
Education, Orders in Council, High Schools and Collegiate Institutes	35	*Not printed.*
Education, compulsory text books	58	*Printed.*
Elgin House of Industry, Report	36	*Not printed.*
Entomological Society, Report	20	*Printed.*
Estimates	16	"
Factories, Report	39	*Printed.*
Fire Insurance at risk	38	"
Forestry, Report	19	"
Fruit Growers, Report	12	"

Title.	No.	Remarks.
Gaols, Report	2	*Printed.*
Health, Report of Board of	76	*Printed.*
High Schools and Collegiate Institutes	35	*Not printed.*
Horticultural Societies, Analysis	27	“
Hospitals, Report	5	*Printed.*
Houses of Industry, location	61	“
Immigration, Report	18	*Printed.*
Indigent Persons, maintenance	77	“
Industry, Houses of, location	61	“
Insurance, Report	10	“
Insurance at risk	38	“
Jones, Judge, commutation	24	*Printed.*
Judicature Act, Orders in Council	24, 25, 32, 33,	“
Lacourse, Judge, commutation	32	*Printed.*
Lazier, Local Master, commutation	25	“
Legal Offices, Report	71	“
License Districts, moneys paid to counsel	72	*Not printed.*
License Convictions	28	“
License, Report	14	*Printed.*
McIntyre, Archibald, case of	55	*Not printed.*
McLean, Local Master, commutation	33	*Printed.*
Magdalen Asylums, Report	11	“
Malcolmson, sum paid to	65	“
Matriculation Examinations	75	“
Mechanics' Institutes, Report (part of)	6	“
Mercer Estate, receipts and expenditures	57	“
Mineral Commission, Report	67	“
Municipal Commission, Report	13	“
Municipal Debentures	54	*Not printed.*
Municipal Indebtedness	53	“
Municipal Statistics, Report	74	*Printed.*
Niagara Falls Park, Report	37	*Printed.*
Niagara Falls Park, persons visiting	62	“
Ontario Agricultural and Experimental Union, Report	7	*Printed.*
Ontario Factories, Report	39	“
Ontario Grain and Seed Company	69	*Not printed.*
Ontario Poultry Association	29	*Printed.*
Orphan and Magdalen Asylums, Report	11	“
Poll Tax, amount received	63	*Not printed*
Poor Houses, location of	61	*Printed.*
Poultry Associations, Report	29	“
Practical Science, Report (part of)	6	“
Printing and Binding, Report on	44	“

TITLE.	No.	REMARKS.
Printing Papers, contract for supply	64	*Printed.*
Prison Labour in United States	49	"
Prisons and Reformatories, Report	2	"
Public Accounts	15	"
Public Institutions, inmates of	23	"
Public Works, Report	17	"
Queen Victoria, Niagara Falls Park, Report	37	*Printed.*
Queen Victoria, Niagara Falls Park, persons visiting	62	"
Raleigh, reduction in indebtedness	52	*Not printed.*
Refuge, Houses of, Report	11	*Printed.*
Registrars, fees of	50	"
Registry Office, Toronto	70	"
St. Catharines Milling Co'y *vs.* Regina, Case	68	*Printed.*
Secretary and Registrar, Report	59	"
Statutes, distribution of	40	*Not printed.*
Statutes, distribution of	41	"
Tavern and Shop Licenses, Report	14	*Printed.*
Technical Education, Report	22	"
Text Books, compulsory	58	"
Tile, Stone and Timber Drainage	78	*Not printed.*
Titles, Report of Master	51	*Printed.*
Toronto General Trusts Co'y, Statement	34	*Not printed.*
Toronto Registry Office, papers	70	*Printed.*
Toronto University, Endowment of Chairs	56	"
Toronto University, Report (part of)	6	"
Toronto University, Bursar's Statement	73	"
University Examinations	75	*Printed.*
Upper Canada College, Bursar's Statement	45	"
Upper Canada College, Report (part of)	6	"
Water Supply to Departments	66	*Not printed.*

LIST OF SESSIONAL PAPERS.

ARRANGED NUMERICALLY.

CONTENTS OF PART I.

No. 1.. Report upon the Lunatic and Idiot Asylums of the Province, for the year ending 30th September, 1888. (*Printed.*)

No. 2.. Report upon the Common Gaols, Prisons and Reformatories of Ontario, for the year ending 30th September, 1888. (*Printed.*)

No. 3.. Report upon the Institution for the Education and Instruction of the Deaf and Dumb, Belleville, for the year ending 30th September, 1888. (*Printed.*)

No. 4.. Report upon the Institution for the Education and Instruction of the Blind, Brantford, for the year ending 30th September, 1888. (*Printed.*)

No. 5.. Report upon the Hospitals of the Province for the year ending 30th September, 1888. (*Printed.*)

No. 6.. Report of the Minister of Education for the year 1888, with the statistics of 1887, in which is included the Reports upon Mechanics' Institutes; Practical Science; Canadian Institute; Toronto University and Upper Canada College. (*Printed.*)

CONTENTS OF PART II.

No. 7.. Report of the Ontario Agricultural and Experimental Union, for the year 1888. (*Printed.*)

No. 8.. Report of the Agricultural and Arts Association of Ontario, for the year 1888. (*Printed.*)

No. 9.. Report upon the Registration of Births, Marriages and Deaths, for the year 1887. (*Printed.*)

No. 10.. Detailed Report of the Inspector of Insurance. (*Printed.*)

No. 11.. Report upon the Houses of Refuge and Orphan and Magdalen Asylums, for the year 1888. (*Printed.*)

CONTENTS OF PART III.

No. 12.. Report of the Fruit Growers' Association of Ontario, for the year 1888. (*Printed.*)

No. 13.. Second Report of the Municipal Commission. (*Printed.*)

No. 14.. Report upon the working of the Tavern and Shop Licenses Act, for the year 1888. (*Printed.*)

No. 15.. Public Accounts of the Province of Ontario, for the year 1888. (*Printed.*)

CONTENTS OF PART IV.

No. 16.. Estimates for the year 1889. (*Printed.*)

No. 17.. Report of the Commissioner of Public Works, for the year 1888. (*Printed.*)

No. 18.. Report of the Department of Immigration, for the year 1888. (*Printed.*)

No. 19.. Report upon Forestry. (*Printed.*)

No. 20.. Report of the Entomological Society, for the year 1888. (*Printed.*)

No. 21 Report of the Ontario Agricultural College and Experimental Farm, for the year 1888. (*Printed.*)

No. 22.. Report of the Minister of Education, upon the subject of Technical Education. (*Printed.*)

CONTENTS OF PART V.

No. 23.. Return, shewing the number of inmates of the Public Institutions of Ontario on the 30th September last; the sex, nationality, nationality of parents, and religious denominations of such inmates. (*Printed.*)

No. 24.. Copy of Order in Council increasing the commutation paid to His Honour Judge Jones, Judge of the County Court of Brant, under the Surrogate Courts Act. (*Printed.*)

No. 25.. Copy of Order in Council commuting the fees payable to S. S. Lazier, Esquire, a Local Master of the Supreme Court of Judicature for Ontario, at Belleville. (*Printed.*)

No. 26.. Report of the Commissioner of Crown Lands, for the year 1888. (*Printed.*)

No. 27.. Analysis of Reports of County, Township and Horticultural Societies in Ontario, for the year 1887. (*Not printed.*)

No. 28.. Return, shewing the date of the appointment of Asa Beach as License Inspector for the County of Dundas. Also, the number of convictions in the County since the date of his appointment for violations of "The Canada Temperance Act, 1878;" the date of each conviction; the amount of penalty imposed in each case; by whom imposed, and the disposition of the penalty in each case. Also, whether each conviction was for a first, second or third offence under the Act, and shewing also, the particulars of unsuccessful prosecutions since said first mentioned date, and the dates of dismissal of prosecutions. (*Not printed.*)

No. 29.. Reports of the Ontario Poultry Association, the Eastern Ontario Poultry and Pet Stock Association, and the Ontario Bee-keepers' Association, for the year 1888. (*Printed.*)

No. 30.. Report of T. W. Anglin, on Ontario's Exhibit at the Centennial Exposition of the Ohio Valley and Central States. (*Printed.*)

No. 31.. Report of E. B. Borron, Stipendiary Magistrate, on the territory belonging to the Province of Ontario, in the vicinity of Lake Abittibi. (*Printed.*)

No. 32.. Copy of Order in Council commuting the fees payable to His Honour Judge Lacourse, Judge of the County Court of the County of Waterloo. (*Printed.*)

No. 33.. Copy of Order in Council commuting the fees payable to W. A. McLean, Esquire, Local Master for the Supreme Court of Judicature for Ontario, at Walkerton. (*Printed.*)

No. 34.. Statement of the affairs of the Toronto General Trusts Company, for the year 1888. (*Not printed.*)

No. 35.. Copies of Orders in Council respecting High Schools and Collegiate Institutes. (*Not printed.*)

No. 36.. Report on the Elgin County House of Industry, for the year ending 31st October, 1888. (*Not printed.*)

No. 37.. Report of the Commissioners for the Queen Victoria Niagara Falls Park, for the year 1888. (*Printed.*)

No. 38.. Return, shewing separately in regard to Companies doing business under Ontario charters, the amount of fire insurance at risk on the 31st December for each of the years from 1881 to 1887, both inclusive; the number of policies in force on the 31st December in each year of which there is a correct record; the total amount of losses paid each year, and the total amount of expenses during each year; the percentage of losses and expenses; the cost of expense on every $1,000 at risk in purely mutual, mixed mutual, cash and stock companies. (*Printed.*)

No. 39.. Report of the Inspector of Factories, for the year 1888. (*Printed.*)

No. 40.. Report upon the distribution of the Sessional Statutes, for the year 1888. (*Not printed.*)

No. 41.. Report upon the distribution of the Revised Statutes, Ontario, 1887. (*Not printed.*)

No. 42.. Archæological Report. (*Printed.*)

No. 43.. Report of the Inspector of Division Courts, for the year 1888. (*Printed.*)

No. .44 Report of the Queen's Printer on tenders for Departmental and Legislative Printing and Binding and Contract with Warwick & Sons. (*Printed.*)

No. 45.. Bursar's Statement of the cash transactions of Upper Canada College, for the year ending 30th June, 1888. (*Printed.*)

No. 46.. Correspondence relative to the Accounts between the Provinces of Ontario and Quebec and the Dominion of Canada. (*Printed.*)

No. 47.. Return shewing the estimated cost, if any, and actual cost *per* yard for each drain constructed by or under the Government within the Counties of Lambton, Kent, Elgin and Essex, and the name of the engineer or other person employed by the Ontario Government to make such estimate. The price *per* yard at which the work was let, and whether on tender by public advertisement or otherwise. The salaries or other remuneration paid the engineers or other persons employed by the Ontario Government to superintend the construction of the said drainage works, and charged to the said works respectively. *Part of No. 8* (*Printed.*)

No. 48.. Report of the Professor of Dairying at the Ontario Agricultural College, for the year 1888. *Part of No. 8.* (*Printed.*)

No. 49.. Return, of a copy of any Report made to the Government, by the Prison Inspector and the Warden of the Central Prison of the result of their enquiries, during the past year, relating to Prison Labour in the United States. (*Printed.*)

No. 50.. Statement of the Returns forwarded to the Office of the Provincial Secretary of all Fees and Emoluments received by the Registrars of Ontario, for the year 1888, R.S.O., 1887, c. 114, s. 100, and with which are contrasted receipts of the same nature in 1886 and 1887. (*Printed.*)

No. 51.. Report of the Master of Titles, for the year 1888. (*Printed.*)

No. 52.. Return, of copies of all correspondence subsequent to 1884, between the Government and the Council of the Township of Raleigh, and any person on behalf of the Township, relating to the reduction made in the indebtedness of the Township to the Province. (*Not printed.*)

No. 53.. Returns transmitted by Municipal Councils to the Office of the Provincial Secretary of the several debts of the Corporation as they stood on the 31st day of December, 1888, in accordance with the provisions of sec. 382, cap. 184, R.S.O., 1887. (*Not printed.*)

No. 54.. Returns transmitted by Municipal Corporations to the Office of the Provincial Secretary of the Debentures issued by them up to the 31st day of December, 1888, as required by sec. 5, cap. 186, R.S.O., 1887. (*Not printed.*)

No. 55.. Return, of copies of all Orders in Council, evidence, reports, correspondence and documents relative to the investigation into the case of and dismissal of Mr. Archibald McIntyre, License Inspector for East Elgin. (*Not printed.*)

No. 56.. Copies of correspondence and agreement of the City of Toronto, to permanently endow two additional Chairs in the Provincial University in settlement of certain litigated questions between the City and the University. (*Printed.*)

No. 57.. Statement of Receipts and Expenditures on account of the Mercer Estate, for the year 1888. (*Printed.*)

No. 58.. Return, shewing a list of all Text Books for each of the last five years, the use of one or more of which was compulsory on pupils—first, in the High Schools, secondly, in the Public Schools, and third, in the Separate Schools. (*Printed.*)

No. 59.. Report of the Secretary and Registrar of the Province, for the year 1888. (*Printed.*)

CONTENTS OF PART VI.

No. 60.. Return, of a copy of the Argument before the Privy Council as to the Boundaries of this Province; the Case submitted to the Privy Council by each of the parties to the reference; the Order of Her Majesty in Council thereon, and also a copy of the like documents on the recent appeal to the Privy Council respecting the ownership of the lands in the formerly Disputed Territory. (*Printed.*)

No. 61.. Return, shewing the location of any Houses of Industry, Poor Houses, or similar institutions, for the care and maintenance of indigent persons, now established in any of the cities, towns and counties, in the Province of Ontario, at the total or partial cost of any Municipality, and distinguishing those partly and those wholly supported by such Municipality; the number of inmates permanently or temporarily lodged in each such institution during the years 1887 and 1888, and their age and sex, with a classification of the supposed causes of pauperism, and the length of detention of such inmates, where any have been committed for short periods; the dietary used in these institutions; the amount expended upon the erection and improvement of buildings since the establishment of any such institution, and the cost of lands connected therewith; the extent, if any, of land annually under cultivation, and the money value of returns therefrom during the years named; the annual money value, if any, of the products of the labour of the inmates; the *per capita* daily or annual cost of actual maintenance, during 1887 and 1888, of the inmates of such institution, less interest on invested capital, and plus the salaries of officials; the number and salaries of attendants, surgeons, and other officials; the number of inmates of such institutions in each of the years named, regarded as imbecile, idiotics, or insane, and of the blind, epileptic or deaf and dumb; and the number of committals of inmates of any such institution to cells or other solitary confinement, as punishment, in 1887 and 1888, and the period during which they were so held in confinement. (*Printed.*)

No. 62.. Return, shewing the number of persons who have visited the Queen Victoria Niagara Falls Park during the year 1888. Also, shewing the number who have paid for admission to the islands in the Park, giving the amount of revenue derived from that source. Also, shewing the amount of revenue derived from all other sources during the year; also, the amount paid as expenses for the management of the Park, giving the names of the officials and the amount paid to each. Also, giving a statement of the money still on hand derived from the sale of bonds, and shewing the amount of interest paid and from what source paid; so far as the particulars do not appear in the Report of the Commissioners. (*Printed.*)

No. 63.. Return, shewing the amount received from Poll Tax in each City, Town and Village in the Province for the year 1886. (*Not printed.*)

No. 64.. Contract with William Barber & Brothers for the supply of Printing Papers required for the service of the Government and the Report of the Queen's Printer thereon. (*Printed.*)

No. 65.. Copy of an Order in Council, approved the 18th March, 1889, respecting the sum to be paid to Mr. S. Malcolmson, as Deputy Registrar of the Chancery Division of the High Court of Justice, and appointing him to that office in the room and stead of Henry McDermott, deceased. (*Printed.*)

No. 66.. Return, shewing the amount paid by the Province and the rates charged *per* thousand gallons by the City of Toronto during each of the past five years for water supplied to the Public Institutions and Departmental Buildings, and offices of this Province located in the City. (*Not printed.*)

CONTENTS OF PART VII.

o. 67.. Report of the Royal Commission on the Mineral Resources of Ontario. (*Printed.*)

CONTENTS OF PART VIII.

o. 68.. Papers and Documents relating to the Case of the St. Catharines Milling Company *vs.* the Queen. (*Printed.*)

CONTENTS OF PART IX.

o. 69.. Commissioner's Return relating to the Ontario Grain and Seed Company. (*Not printed.*)

o. 70.. Papers with reference to the Registrar's Office in the City of Toronto, and the Registry Law. (*Printed.*)

No. 71.. Report of the Inspector of Legal Offices, for the year 1888. (*Printed.*)

No. 72.. Return, shewing the names of all persons to whom sums of money have been paid by the Inspectors of any License District within the United Counties of Leeds and Grenville, and the Counties of Wellington, Elgin, Kent, Lanark and Oxford, to any person, either as a counsel or solicitor in the conduct of prosecutions under the Canada Temperance Act, before any Police Magistrate, giving the names of the Magistrates and the full particulars, with dates and items of every such payment. (*Not printed.*)

No. 73.. The Bursar's Statement of the cash transactions of the University of Toronto for the year ending 30th June, 1888. (*Printed.*)

No. 74.. Report of the Bureau of Industries on the Municipal Statistics of Ontario, for the years 1886 and 1887. (*Printed.*)

No. 75.. Copies of all correspondence between the University of Toronto and any other University or Universities, relating to Matriculation Examinations. (*Not printed.*)

No. 76.. Report of the Provincial Board of Health, for the year 1888. (*Printed.*)

No. 77.. Return shewing the amount paid out from municipal funds, either by direct grants or remission of taxes, in each city, town, village or rural municipality in the Province of Ontario, during 1887 or 1888, for the relief of poor and indigent persons, but not including any sum paid for the support of a House of Industry or similar institution; the number of indigents a permanent charge upon any municipality in 1887 and 1888; and the number of such indigents who received temporary aid from municipal funds in 1887 and 1888. (*Printed.*)

No. 78.. Statement of the Returns made by Municipalities under "The Tile, Stone and Timber Drainage Act," R.S.O., 1887, chapter 39, for the year 1888. (*Not printed.*)

(No. 69.)

Commissioner's Return relating to the Ontario Grain and Seed Company. (*Not printed.*)

PAPERS

WITH REFERENCE TO THE REGISTRAR'S OFFICE IN THE CITY OF TORONTO, AND TO THE REGISTRY LAW.

Presented to the Legislative Assembly,

By Command,

J. M. GIBSON,
Provincial Secretary.

Provincial Secretary's Office,
21st March, 1889.

TABLE OF CONTENTS.

1. Letter of Chas. Lindsey, 17th February, 1888, suggesting division.
2. Memorandum from the Registrar of Toronto to the Attorney-General.
3. Commission of Enquiry.
4. Evidence before Commissioner, 13th, 14th and 16th February, 1888.
5. Letter of S. W. McKeown, 19th December, 1888, suggesting three divisions.
6. Letter of McMichael, Hoskin & Ogden, as to inadequate assistance at Registry Office.
7. Report of Inspector of Legal Offices, 6th March, 1888.
8. James Thompson, 13th April, 1887, suggesting three divisions.
9. Letter of Inspector of Legal Offices, 31st January, 1889, endorsing Draft Bill.
10. Letter of Members of Legal Profession.
11. Copy of Resolution of York Land Association, 26th January, 1889.
12. Letter from Attorney-General's Secretary to Mr. Urquhart, 5th February, 1889.
13. Reply on behalf of the York Land Association, 8th February, 1889.
14. Letter of Mr. Winchester, 21st February, 1889, with Statement of Instruments registered in 1887 and 1888.

[1. LETTER FROM CHARLES LINDSEY, ESQ., REGISTRAR TO THE ATTORNEY-GENERAL.]

CITY REGISTRY OFFICE,
TORONTO, February 17th, 1888.

THE ATTORNEY-GENERAL OF ONTARIO, *Parliament Buildings:*

SIR,—I beg to call your attention to the following facts on the present and prospective condition of registration in the city of Toronto. It seems to me that we are rapidly approaching the maximum of work which it is possible to do satisfactorily in one registry office. I doubt if, under the same system, an amount of work equal to that now performed in the Toronto office, in searching, furnishing abstracts, and doing other things connected with registration is done in a single office elsewhere. I am quite aware that neither in New York or in Chicago is there more than one registry office, and in the system pursued in these and other American cities there is practically no limit to the registration that can be done in one office. But we cannot follow the method in vogue in these places, because it does not furnish the information required in tracing a chain of title. These instruments are not registered against the parcels of land to which they relate. The abstract index merely follows the order of the receipt of the instruments; and it is practically impossible to unravel a title by reference to the information available in the registry offices. The titles are in the hands of what are known as abstract solicitors who get the information daily from the registry officers and reduce it to the form in which it is found in the registry offices of Ontario. American registrars are not required to furnish, (and, as a matter of fact,) do not furnish abstracts of registration at all. Here, all the information obtained from abstract solicitors in the United States is in the registry office. It is in part obtained from solicitors who make searches, and in part through abstracts furnished by the registrar. These demands impose a maximum of registration which it is not possible satisfactorily to exceed in a single office. That maximum I conceive has been reached in Toronto. During the past year solicitors searching have been subjected to great inconvenience from crowding the limited available space, and though an addition has been made to the building all the space available for the registry books will, at the present rate of increase, be filled in two years. If we go on as at present a new building must at the end of that time be erected, for the present one, which has cost something like $40,000, would become inadequate to the demands upon it. If the business were much extended it would be impossible for any practicable staff of officers to attend upon searchers and to furnish abstracts with the expedition demanded in these impatient days.

Under the circumstances I think it my duty, however reluctantly, to inform you that I see no adequate remedy short of a division of the city for registration purposes. Owing to the way in which the books have been kept the division could only be made at the line of Yonge street. If the recommendation to make that division, which I now offer for your consideration, be acted upon, I shall rather welcome than otherwise a release from a part of the responsibility which I now find myself under.

I have the honour to be,
Your obedient servant,

CHARLES LINDSEY,
Registrar.

[2. MEMORANDUM FROM THE REGISTRAR OF TORONTO TO THE ATTORNEY-GENERAL.]

Along the city front south of Front street by a varying depth south, to the north boundary of the water lots and from Peter street in the west to old wind-mill east of Parliament street, the indexes are confused together under the heading of walks and gardens; along side of this, on the south is another strip of the same length, the indexes of which have from the first been kept in the same confused state. On some park lots there are between three and four thousand entries all jumbled together, and on some of the original town lots, one acre each, in the heart of the city, now containing a large number of buildings and in fact permanently reduced to their alternate division, there are several hundreds of registrations. There is one block of eight acres in the heart of the city, bounded by Church street on the east, Wellington street on the north, Front street on the south, and on the west near Scott street, known as the triangular block, on which all the indexes have been always kept confused together for want of some legal notions of separation, which would authorize the making the indexes to the registrations on the different parcels with which they are in fact divided, apply directly and exclusively, to the several parcels in front of park lots five, six and seven. There are gores in the same confused condition. Old Toronto street, which became private property in exchange for parts of the town lots taken to produce Yonge street, south of Queen, to the water is in the same state. In other cases lots have been sold on plans which were never registered and without metes and bounds in the descriptions; some of these it is impossible to identify. There are other large parcels of land which have never been subdivided on plans, and in reference to which the same difficulty exists. The Walks and Gardens property belonging to the city requires to be surveyed as a means of locating and identifying it.

[3. COMMISSION OF INQUIRY.]

A. CAMPBELL.

PROVINCE OF ONTARIO.

VICTORIA, by the Grace of GOD, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, etc., etc., etc.

To JOHN WINCHESTER, of the City of Toronto, Esquire, Inspector of Legal Offices, Our Commissioner in this behalf, GREETING:

O. MOWAT,
Attorney-General.

WHEREAS, in and by Chapter seventeen of the Revised Statutes of Ontario, it is enacted that, whenever the Lieutenant-Governor in Council deems it expedient to cause enquiry to be made into and concerning any matter connected with the good government of this Province, or the conduct of any part of the public business thereof, or the administration of justice therein, and such enquiry is not regulated by any special law, the Lieutenant-Governor may, by the commission in the case, confer upon the Commissioner or person by whom such enquiry is to be conducted the power of summoning before him any party or witnesses, and of requiring them to give evidence on oath, orally or in writing (or, on solemn affirmation, if they be parties entitled to affirm in civil matters), and to produce such documents and things as such Commissioner deems requisite to the full investigation of the matters into which he is appointed to examine, and that the Commissioner shall then have the same power to enforce the attendance of such witnesses and to compel them to give evidence as is vested in any court of law in civil cases;

AND WHEREAS, divers charges and complaints have been made to the Executive Government of Our said Province, with respect to certain alleged irregularities in the office of the Registrar of Deeds, in and for the City of Toronto, and with respect to the condition and business of the said office;

AND WHEREAS, the Lieutenant-Governor of Our said Province in Council deems it expedient that enquiry should be made into the said charges and complaints by some one authorized to take evidence under oath;

NOW KNOW YOU that We, having and reposing full trust and confidence in you, the said John Winchester, do hereby, by and with the advice of Our Executive Council of Our said Province, appoint you, the said John Winchester, Our Commissioner in this behalf, to examine into and to report to Our said Lieutenant-Governor upon certain alleged irregularities in the office of the Registrar of Deeds for the City of Toronto, and concerning the condition and business of the said office, and to report your opinion as to any regulations or changes in the said office which may appear to you, Our said Commissioner, desirable in the premises, giving to you, Our said Commissioner, full power and authority to summon before you any witness or witnesses, and to require him or them to give evidence on oath, orally or in writing (or, on solemn affirmation, if such witness or witnesses is or are parties entitled to affirm in civil matters) and to produce to you, Our said Commissioner, such documents and things as you may deem requisite to the full investigation of the premises, together with all and every other power and authority in the said Act mentioned, and authorized to be by us conferred on any Commissioner appointed by authority or in pursuance thereof. And We do require you, Our said Commissioner, forthwith after the conclusion of such enquiry, to make full report to Our said Lieutenant-Governor, touching the said investigation, together with a return of all or any evidence taken by you concerning the same;

To have, hold and enjoy the said office and authority of Commissioner for and during the pleasure of Our Said Lieutenant-Governor;

IN TESTIMONY WHEREOF, We have caused these Our Letters to be made Patent, and the Great Seal of the Province of Ontario to be hereunto affixed: WITNESS, The Honourable SIR ALEXANDER CAMPBELL, Knight Commander of Our Most Distinguished Order of St. Michael and St. George, Member of Our Privy Council for Canada, Lieutenant-Governor of Our said Province of Ontario, at Our Government House, in Our City of Toronto, in Our said Province, this Third day of February, in the year of Our Lord one thousand eight hundred and eighty-eight, and in the Fifty-first year of Our Reign.

By Command,

ARTHUR S. HARDY,
Secretary.

[4. EVIDENCE BEFORE COMMISSIONER.]

TORONTO CITY REGISTRY OFFICE,
13th February, 1888.

Enquiry into the condition and business of the Registration of Deeds for the City of Toronto.

Present: Charles Lindsey, the Registrar, and George G. S. Lindsey, his Solicitor, and John Winchester, the Commissioner.

Commission dated 3rd February, 1888, read and enquiry commenced, the Registrar being prepared.

CHARLES LINDSEY, sworn, states:—I am the Registrar of Deeds for the City of Toronto. I was appointed as such on the 24th December, 1867, and have continued ever since. I have made an annual return of my fees of office every year since then. They were all true and correct in every particular as required by the Statute and made to the Provincial Secretary and latterly to the Treasurer of the City of Toronto also. When I was appointed there were only two clerks in the office besides the deputy, who was acting for his father who did not act then personally. Soon after my appointment I got Mr.

Passmore as my deputy, and kept the two clerks that were in the office, and within a few weeks appointed two other clerks in order to get the work up, as there were about 800 instruments to be copied and other work to do. The fact is that the previous Registrar had never opened an abstract index book, and I had two years of back work of that description to do. I got nothing for the abstract index book, but received about 20c. for each instrument to be copied from the representatives of the former Registrar. Since then business has increased about seven times more. It is quite that, I think. I speak of the increase of instruments and large additions to the city. I cannot, from recollection, tell the particular details of the additions to the city. Mr. Layburn, my deputy, will be better able to speak as to them. The increase has not been uniformly progressive by any means. After a certain rise there has been great falls. Speaking from recollection, the first time after we had reached $13,000, more or less, for one year's receipts, there was a decline which brought us back to, I think, a little over $9,000 for sometime. I have now in my service 17 clerks and 2 deputies, namely, Deputy George Layburn, $1,100 a year from 1st January, 1888, and $1,060 prior thereto for 18 months, when new territory was taken in his salary was gradually increased. Deputy William Bennett $728 per annum or $14 a week. R. A. Bennett, reviser, $9.00 a week and 15c. an hour for overwork. He works from 9 a.m. to 5 p.m. Richard Williams, clerk, $9 a week. He receives instruments and the money only. Mr. Bath, an old English solicitor, makes abstracts under Mr. Layburn's directions. He receives for copying 2c. a folio, and for abstracts I leave that to Mr. Layburn. I know nothing personally about it. There are four boys, Rattan, Billings, Carson and Edwards. They are paid as follows: Rattan $5.00 per week, and each of the others $3.00 per week. Their duty is to hand out books to the public during office hours. They also make the alphabetical index and compare the original instruments to see that they are duplicates, and report irregularities in deeds to Bennett. All the others, with one exception, are copying clerks, namely, Ambery, Armstrong, Smith, Smiley, Gould, Colling, Foster, Samwell and Blakely. They each receive 2c. a folio for copying according to the marked face of the instrument. They get the advantage of the fractional folios same as we do. Then Beaumont has charge of the comparing department. He has nothing to do but to compare the instruments with the copy entered in the register with one of the boys in the office, and makes any necessary alteration and correction in the register in pencil to be afterwards inserted in ink by the person copying it. He receives 15c. an hour while engaged at this work. I don't know how many boys' assistance we had in 1886. Mr. Layburn attends to all the wants of the office. I can't recollect anyone making a complaint to me of the shortness of assistance in the office. Mr. Layburn is instructed to call from the copying room whatever assistance he needs in the office; the intention being to supply all possible needs and give no room for complaint. People get impatient sometimes in searching if they have to wait a minute or two, and during the whole of 1887 the want of room produced the greatest possible confusion in searching, caused by alterations going on in the office. Mr. Batt now writes out abstracts for the public under Mr. Layburn's instructions. No others besides Mr. Batt and Mr. Layburn make out abstracts at present. I think William Bennett enters the instruments in the abstract indices unless when there is some pressure by there being a vast number of lots in an instrument or such like, when he is assisted by R. A. Bennett. None of my clerks or deputies receive any remuneration from any source other than what I pay them. I would not allow that. In the beginning of 1887 we copied all the abstract books of the two park lots into smaller ones, making eighteen books in all out of four larger books. This was done for the convenience of the public, as a larger number of people wanted to search at the same time the park lots abstracted in the one book, and besides we wanted them to continue the abstracting when they were being required by the public. This has relieved the pressure when it was most felt. I recollect a young man coming in once, about a year and a half ago, making a complaint that something was not on the abstract index. Mr. Layburn was able to demonstrate that it was on at the time the search had been made. I once had a man point out that the writing in the libers was not as good as it should be. I examined the books and found that to be the case. I had the man changed. The writing is the very best description now. I discovered that some of the libers had been copied incorrectly, and in consequence I asked the Inspector for instruction and suggested re-copying, and that was carried out. There were seven libers re-copied in this way. The city supplied the books but I had the work done. The incorrect copying was purposely done by my entry clerks, they leaving out parts of the deeds and charging for them as if the whole had been copied in, and even sometimes charging for them two or three times over. There are about 900 pages to a liber. No one ever complained to me of any instruments being taken out of my office. In the bustle during last year I shouldn't be surprised if somebody had taken one away. We have a check on them now, as we don't give any out now without an order. I think I did hear of one being taken away, but it was recovered. When I was appointed I went over all the deeds in the office and found some missing. I informed the Inspector and he replied that he heard of such things before. Some of the abstract indices are in a bad state of repair in consequence of the bad paper and binding and being so constantly used. The system of keeping these books in the files has been changed, so that in the future it is expected they will not so readily give out. Besides the case of the young man complaining a year and a half ago as to mistake in the abstract index, I have heard of other mistakes being spoken of, but don't remember any specific case. I don't know of any case whatever in which any one suffered or were put to any loss, damage or inconvenience in consequence of any mistake being made, or having been charged as made, in my office, and I never had a suit brought against me in consequence of any alleged mistake made in the office. I paid J. A. Mulligan, a practising solicitor, for an alleged omission of abstracting a by-law the sum of $30.00. This was last year sometime. This was one-half of the amount he stated his client had been injured. He admitted that it was doubtful whether the mistake was ours. The by-law had been abstracted also on another lot, but was scratched out by some one with a knife; by whom I don't know, but certainly not by anyone connected with the office. I don't know that any professional men or others have made alterations in the registry books without my knowledge or the knowledge of my deputies or clerks, or at all. I don't know of any case in which a registered instrument has been replaced by the duplicate originally given, although such a thing is quite possible, and I don't see that it would be objectionable unless the duplicate had been altered after registered and before returning it. I don't know of any case in which a mortgage had been omitted from the abstract book. I admit that mistakes have been made in the abstract index book. Occasionally there were. Sometimes we did not have the instrument compared when we had thoroughly good men we could rely on like Layburn. I think all this work was subsequently compared by parties in the office. I used to be here in the office always until the beginning of 1887, and after that I didn't spend much time as there was no place where one actively working could occupy. When working. I made a general superintendence, learning from Mr. Layburn as to any complaints or anything requiring attention, and referring matters to my solicitor, and the last two years I have had my solicitor, George G. S. Lindsey, my son, come to the office every day when he was in the city, or nearly every day, to see what was wanted. Mr. Layburn hasn't the power to dismiss any of the office clerks or employ any. We generally talk over the matter and look into the justice of the case. The new addition to the building scarcely gives us sufficient room. At present there is room enough for the books for two years but not longer, but I think I could not say that the public is entirely free from inconvenience through crowding even now on occasions. The number of persons searching varies very much from day to day as the total amount of work does from year to year. What I mean to say is that in two years from now additional room must be given for the convenience of myself, clerks and the public, that is the space now available for books will be entirely filled at the present rate of accumulation.

Examination of Mr. Lindsey to be continued at 10 a.m. to-morrow morning.

George Layburn sworn, states:—I am Deputy Registrar of the City Registry Office and have been such for ten years or thereabouts, and in the office as entry clerk prior thereto, being in my eighteenth year as clerk and deputy. My duty is to supervise and draw up all abstracts of title required by the public, and generally to see that the work of the office is properly and efficiently done. I have not too much work put on me to have it done properly and efficiently. If two want their abstracts done at the same time one has to wait. No money has been paid in order to have an abstract made quicker than what it would otherwise be. On one or two occasions I have received a little for getting an abstract done. I have received $5 for myself from Mr. J. K. Kerr, for making an abstract before he left for England; no bargain was ever said about it beforehand. I very often write out or make an abstract out of its turn; more are made out of their turn than in their turn, that is according to the time of their being ordered. If an abstract is ordered from a certain number, I turn it up and find only two or three numbers; I direct it to be copied and issued instead of waiting for a long abstract that may take two or three days or longer to copy out. I revise all abstracts that are issued before issuing them. I have found mistakes now and again in the abstracts sent out, that is something been omitted. This will always occur, more or less, as from some instruments registered it is difficult to know the proper descriptions. I have had mistakes pointed out to me in the abstract index by practitioners; this has not occured frequently, not so many of late. I have had one or two made lately. I don't know a single case of a mortgage not having been abstracted at the time the search on the property was made by the solicitor. I couldn't say there were instruments left off the abstract index. Under the present system in force of checking, an instrument could not be left off for more than two or three days. I believe there were mistakes made by Mr. Leigh when he was deputy two years ago. There were a great many mistakes made by him. They were very soon corrected after, as soon as they were found out. I don't know of any instrument not registered against lots contained in the instrument. Some instruments have been pointed out to me as not being registered against the lots mentioned in them; they were put right as soon as pointed out to me. I don't know of any instruments being taken away from the office by any one after registration. I remember one case when a solicitor took away a memorial by mistake, but he brought it back same or next day. Solicitors have and do frequently ask for the production of the original documents. If any mistake in copying or abstracting, we don't charge the fee for producing it. I don't know how frequently it occurs that mistakes are found. It sometimes occurs, I know, in old memorials, etc. I remember the seven libers that were recopied; the Inspector thought they were badly written or else badly compared. They were not correct; I believe. The instruments are now all compared. The present system of comparing has been in operation for two years, in former years the writers used to compare their own work. As to the particular books referred to, I don't suppose the writers could have compared their work. There is more room for putting the books and deeds away by the new addition, but the convenience to the public is not any greater. I don't think they have any greater room than they had before. I have measured it and find they have less room than they had before. I think we will fill up the shelves with books in two years from now. With reference to the mistakes in the abstract index books and libers, I can only speak as to those pointed out to me. Mr. J. G. Robertson left four mortgages and duplicates for registration against separate parcels from the same mortgagor to the same mortgagee in April, 1885, and it appears that one of the mortgages and its duplicate were given out to him in mistake and one of the other mortgages and its duplicate registered against the same parcel twice. Mr. Robertson found this out and brought the separate mortgage back directly, when the mortgage was altered. Mr. Bennett and Mr. Campbell went over the abstract indices from 1880 up to the present time, and made corrections as they found them. The interlineations in the abstract index book must have been made through the instruments being left off. I have known of instruments containing several lots only being registered against some of such lots. I don't know of any now. Complaint was made by Mr. Ogden that there was not sufficient attention paid by the lads. I told Mr. Lindsey about it, and two new lads were put in the office. At the time the complaint was made we only had moved into the new portion of the office and the lads scarcely knew where the books were. One lad was dismissed in consequence of his carelessness. I have instructions from the Registrar to get assistance from the copying clerks when needed. I haven't heard of any complaint against any of the other lads. I consider the staff we now have in the office quite sufficient to attend to the public's business. I remember the interlineation in the abstract index book of park lot 17, with respect to a strip of three feet wide. There are a number of interlineations. The conveyance described the lot according to the plan, and also the strip of three feet of park lot 17, but it was only abstracted at first against the lot. I do not recollect that two *lis pendens* in Bates *vs.* Tennant and Bates *vs.* Kerr, dated 16th August, 1884, were not abstracted against lot 14, north side College street, plan 176, nor do I remember that mortgage No. 7456 C.W. was not abstracted against lots, 1, 2, 3 and 4, plan 369, dated 11th October, 1883, mortgagee J. A. Donavan to Wm. Mulock for $1,200. Mr. Leigh did the abstracting during these periods, and it was in consequence of his incapacity to do the work that he was sent away. He is Mr. Lindsey's son-in-law. His work was all checked as soon as possible long before you, Mr. Winchester, commenced inspection.

Adjourned at 5 p.m. to 10 a.m. 14th February, 1888.

TUESDAY, 14th February, 1888.

Examination of Charles Lindsey continued:—

The total amount of fees received for registrations, certified copies, abstracts and searches, for the year 1868 was $4,451.36; 1869, $5,186.92; 1870, $12,338.00; 1871, $7,835.98; 1872, $8,128.45; 1873, $9,072.74; 1874, $12,338.28; 1875, $10,040.24; 1876, $9,289.85; 1877, $10,148.10; 1878, $9,915.27; 1879, $9,655.60; 1885, $18,354.00; 1886, $25,644.75; 1887, $31,112.25. The disbursements were only preserved within a recent date, that is, from the beginning of 1885. They cover all expenses connected with the working of the office, namely, deputies, clerks and copying clerks, and caretakers' salaries and wages, and the rebate paid to the City of Toronto on the 15th January of each year. The amount of such disbursements for 1885 was $11,770.76; for 1886, $17,246.47; and for 1887, $24,505.12. Besides the fees above mentioned, which are referred to as being fees proper, I have received other fees for work done in connection with the transfer of new territory to the city, and re-copying under the Statute of books becoming unfit for use, under the order of the Inspector. I will give you a detailed statement of such sums received since 1880.

Q.—It is stated by Solicitors, Mr. Lindsey, that they suffer considerable inconvenience in making searches and transacting business in this office; if this be true, what in your opinion, would be the best means of remedying the evil?

A.—I believe that the work of the office is done as well and as expeditiously as possible, but no doubt the future has to be considered, and here arises a practical question which it will be impossible long to put off. In whatever form, increased room must soon be required. The present building with the new addition is even now, in some respects, barely up to the requirements, and in two years at the present rate of increase the shelf room for the books will all be occupied. It has taken about a year and a half to make the present addition to the building, and the work is still unfinished. The copying clerks being in another building it is quite clear that there is no time to be lost for preparing for future requirements. The area of the city is constantly increasing by annexations, and there is now a question of Parkdale coming in. The present building, which has cost something like $40,000.00, and which is not more than sufficient for present needs, must in the near future either be abandoned or utilized only for the amount of business which is possible to carry on within it. If its use is to be continued for registration purposes, it will only suffice for that section of the city which lies west of Yonge Street, and in which it is situated. This, no doubt, implies a division of the city for registration purposes, and in that case a new building would have to be put up east of Yonge street. The reason I mention Yonge street as the line of division is that it is the only practicable one, owing to the manner in which the books of the office have been kept, though division would naturally be disadvantageous to me as Registrar, I should, on public grounds, recommend it as the best means of meeting the difficulty which is now in sight, and for which reason ought, in my opinion, to be made not later than the end of the current year.

To Mr. Lindsey.—I have never had any knowledge of any of my clerks receiving remuneration from persons outside the regular salary.

If there was any insufficiency of service in the office, it must have been the day or two after we had moved into the new part of the office, before the lads had got acquainted with the books and their distribution, and not because any unlimited supply of assistance was not at all times at the disposal of my deputy.

CHARLES LINDSEY.

George Layburn's examination—Continued.

I cannot state the cases in which I have received money from outsiders, nor can I give an approximate of such cases. It might average $10.00 or $15.00 a year taking it all through, that is, since I came here. It would not come to that amount. I don't think there would be more than ten or fifteen cases a year. These cases were in which the abstracts had been made out quick. It has happened in this way: when a person would come in late in the afternoon and wanted an abstract the next morning they have asked me if I would come in my own time before office hours and do the work and they would say if I would do so they would make it all right for me. My usual hours depend upon the amount of work to be done in the office; if nothing pressing, I would be here 9 or 9.30 a.m., and remain until 5 or 5.30 p.m., or even earlier, but if pressing, sometimes 8 or 9 a.m., and to 6 p.m. What my desire and object has always been is to facilitate the work of the office. The whole work of the office is virtually under me; that is, under my directions. The Registrar has given me full instructions to see that the work of the office is properly done. If anything arises that in my opinion causes any unnecessary responsibility, I refer it to the Registrar or his solicitor, Mr. G. G. S. Lindsey, as the Registrar is the responsible party in law. I come in direct contact with the members of the profession and public, and complaints are made by them to me. I have heard complaints that mistakes were made in the abstract indices and libers, and in abstracts issued, and as to the manner in which the lads wait upon the public in giving out the books; whenever any difficulty is called to my attention or I see anything going wrong I remedy the matter at once. My time is always fully occupied, this is as a rule; occasionally I haven't much to do. I remember the fact of my attention being called to certain instruments not being entered on the abstract index. I suppose there are about 50,000 entries made in a year, and the average of that number left off of the abstract index would be less than one hundredth part of one per cent, or about five numbers in the year. When an instrument is received for registration the time is endorsed upon it in pencil with the amount of fees paid for registering it, and the liber in which it is to be copied. These entries are made by Williams; he then puts the certificate on the deed and duplicate of its registration entered in the fee book, and then it is handed to the comparers at four o'clock p.m. They compare, to see that they are in duplicate; then it is handed to William Bennett to enter in the abstract index against the proper lots, which is always done on the following day, and then I or Mr. Lindsey sign the certificates; then it is handed to the clerks, who enter it in the alphabetical index, the duplicate is then returned or ready to be returned; the deed is then handed to the proper copying clerk to be entered in the liber. After that the deed is handed to R. A. Bennett, and he checks the abstract index with it; then the deed is put away in the vault until the liber is full, when all the deeds entered in it are compared with the book by Mr. Beaumont and one of the lads in the office. I don't know if Mr. R. A. Bennett checks the alphabetical index. He does check this index, as it is his duty to see that it is duly marked as being entered. Mr. R. A. Bennett has been here a little over two years, and before that I did the revising myself with my other duties. The work was not so heavy as it is now. I found out mistakes made by Mr. Leigh in the abstract index, and had them corrected; I don't know how many. I never went over the alphabetical index. Williams used to keep it then. Even after I have gone over them, there may have been mistakes. The checking got a little behind just before Mr. Bennet came, and it was in consequence of that that Mr. Bennett was added to the staff for that particular work. The four lads come at 9 a.m. and leave as soon as their work is done after the office is closed for the day; sometimes six before they leave. The entry or copying clerks come and go just as they please, so long as they keep up their work. They receive two cents a folio. Some are faster writers than others. Smith writes about seven folios an hour; Amberry can write about eight or nine folios; Armstrong, about seven to nine folios; Smiley, about ten folios; Gould, nine folios; Collins, about fourteen folios; Foster, about ten to twelve folios. Samwell and Blakely new. Blakely here before; he can write twenty folios an hour. Hannaford comes off and on, on night work; he writes twenty folios an hour. William Bennett comes about half-past seven and remains until his work is done, about five p.m. The reason he has to come so early is because his work must be done so far as possible before the public receive or require the abstract books in which he makes his entries. R. A. Bennett's hours are from 9 a.m. to 5 p.m. Williams' hours are from 9.30 a.m. to 4.30, 5, or 5.30 p.m. As to Beaumont, I don't know whether he has specified hours or what his arrangement is. He has charge of the comparing; he comes about 9 a.m. and leaves about 5 p.m. Batt comes pretty early in the morning, about 8 a.m., and remains sometimes until after I leave. I don't quite know how much he gets; he charges something for his time, but I don't know the amount at the present moment. Collins who used to do abstract copying, and still does some of it, received three cents a folio, but Mr. Batt is not paid by the folio, he is paid more than three cents a folio; I don't know how much, as he is paid with a view to the time actually occupied by him. I produce a statement shewing the amounts paid to the copying clerks from the week ending 16th September, 1887, to the week ending 31st December, 1887. I don't remember being asked about mortgages said to be omitted from the abstract index book. I remember the fact that there were some, but I don't remember the particular cases. The Registrar has not been able to stay in the office within the last twelve months in consequence of the state in which the building was. He, however, signed all the libers during that period. Prior to that he would be in his own room out of my sight; he would leave the deeds brought into him in the morning to have the certificates signed, and would also sign the books and adjudicate upon anything I brought before him, nothing else that I remember of. Didn't give any directions as to abstracts. If there was anything I wanted to know he would give instructions, such as if any deeds came in and I didn't think they were proper to be registered, I would ask for his instructions. He always gave instructions to the other clerks through me so far as I know. I was practical deputy for all intents and purposes, and had charge of the whole office. Several times he would speak about the kind of writing and about the work being behind. The only assistance he gave in the work of the office was his advice, that was about all. Prior to 1887 he was not here every working day. He was here sometimes daily, and sometimes only three or four or five times a week.

To Mr. G. G. S. Lindsey.—The money given to me was not a payment, but a gift, my work was not more than I was reasonably expected to do, or could reasonably do. I was not always satisfied with my remuneration from the Registrar. I think if I got more I would be more fairly paid. When I asked for an increase I always received it. It was not because I was underpaid or considered, myself underpaid, that I at first accepted these gifts. The fact of receiving these gifts, did not interfere with other parties getting their abstracts in the regular time as they were not at all delayed by it than they otherwise necessarily would have been. People are not delayed necessarily in getting their abstracts. Nearly all short ones go out the same day they are ordered. It all depends upon the length of the title and the difficulty in searching the different documents and descriptions. Information acquired by me by experience, enables me to give an abstract in a very short time. I know nearly every early title from the Don to Dufferin Street. When I found out mistakes made by Mr. Leigh, I sometimes reported them to Mr. Lindsey. I ought to have reported them more frequently than I did. When I had made frequent reports, Mr. Lindsey put him to copying. I should think there would be about 300 applications per annum for copying at the office, many of those who copied left because they were not wanted have returned and been re-employed at the same rate, namely, two cents a folio. Mr. Sims writes in the evening. Mr. Creddicot also has applied and will go on when we have room for him. Mr. Blakely is another returned copyist. Hannaford also came back. I am constantly bothered by people to take them back. The Registrar himself could not very well give any directions as to any abstracting. He always seemed solicitous to have the work kept up every day, and being at the head of the system, he only considered it necessary to direct it.

Re-examined.—There are about three or four abstract index books in a very bad state, with leaves entirely loose but not missing, and needing repairing. This is done by an order from the Inspector. They are mostly old books and have been rebound once. All the libers have been kept, east and west, since 1868, and some previously.

G. LAYBURN.

William Bennett.—I am Junior Deputy-Registrar in the City Registry Office. I have been here since 24th June, 1884. I receive $14 a week since 1888, previously I received $13 for 1887, and $12 for 1886. I enter all instruments on the abstract index books. I have done this since May, 1885. I was appointed Deputy 4th September, 1885. I am usually here a little before 8 a.m., and remain up to 4.30 p.m., and sometimes come back in the morning. I don't make out abstracts. I give information to the public with reference to the books of the office. I very seldom hear complaints about mistakes in the books. The complaints are usually made to Mr. Layburn, and sometimes to me. I don't remember any mistakes being made in the abstract index books. Mr. McKenzie complained about how the lads attended to their duties in the office. He wrote I think to Mr. Lindsey. That is the only case I remember about. I know Mr. Layburn is kept pretty busy every day in furnishing abstracts and giving general information, but I don't know that he has more to do than he can properly and efficiently attend to. The only assistance he has in making out abstracts, is in copying out the entries from the abstract index book on the abstract itself. I have often seen him revise such abstracts copied out by a clerk. I have not to my knowledge omitted indexing any instruments against the lots described in them. I take all the care I can. R. A. Bennett revises all my work. When I first came here Mr. Leigh was abstracting the instruments in the abstract index book. I found several mistakes of his. I could point them out now. I don't remember of any mortgages being left off the index books. I know that Mr. Layburn has received money for making out abstracts after hours. They were wanted specially. I don't know the sums paid to him. He told me he received money. I have seen parties handing him money over and above the proper fees for the abstract.

To Mr. Lindsey.—The abstract index books are frequently used during the day, and that is the cause of my having to return in the evening to enter them up. I don't know if Collins or Williams received any money. I can work much better in the morning as there are no interruptions between 7.30 and 10 a.m.

WILLIAM BENNETT,

Adjourned until Thursday, the 16th instant, at 2 p.m.

Thursday, the 16th day of February, 1888, 2 p.m.

Present: The Registrar and his Solicitor, G. G. S. Lindsey.

Robert A. Bennett, sworn, states:—I have been in the City Registry Office since the latter part of June, 1886. My duty is to check over the Abstract Index book, open out plans and enter in Abstract Index the various by-laws that are registered. I receive $9 a week for this work. My hours are from 9 a.m. to 5 p.m., with an hour for lunch. There were a good many mistakes in the Abstract Index books when I first started at them—about two weeks after I came here. The mistakes were instruments not registered against the lots mentioned in them, sometimes wrong dates entered and sometimes registered against the wrong lots. I think these mistakes were in Mr. Leigh's time. Now and then as I check now I find something left off the Abstract Index books, very few indeed. At first I had my attention drawn by solicitors searching to errors where instruments were not registered against the lots searched. I have not heard of any complaints within the last year. I recollect Mr. Mulligan complaining last year about a by-law not being entered on the lot searched by him. He was in error as the by-law was undoubtedly on when he made the search. I remember putting it on distinctly. I am kept busy all the time, and have assisted in giving out the books to the profession. I heard Mr. Ogden speak to Mr. Layburn about not being able to get the books from the lads. This was about three weeks ago—just after we had moved into the new building. Sometimes I have seen solicitors waiting in order to get books from others using them, and have seen them go away and return again. I have seen the place, even the new room, crammed with people searching and waiting to search. I counted forty-five in the room at once. There would be an average of about thirty persons at one time in the office during some part of each day during the year. All these persons had to be waited upon and I and others also had often to leave our work and wait upon them, giving them out books, etc.

To Mr. G. G. S. LINDSEY.—It is part of my business to give information to the public. It would not take me from 9 to 5 checking the Abstract Index books.

To COMMISSIONER.—Mr. Wm. Bennett in indexing instruments against a number of lots on the same plan has only carried out the instrument in full on one or two lots and then placed the number of such instrument under the lots mentioned in it. In such case I would fully abstract such instrument against all the lots the next morning. In these cases my work would not be checked other than the number being placed there by Mr. Bennett.

R. A. BENNETT.

WALTER RICHARD WILLIAMS, sworn, states.—I came to the City Registry Office as a clerk on the first April, 1883. My duties are to receive conveyances for registration, enter them in Receiving or Fee Book, stamp them with the certificate of registration, filling in time of receipt and number of instrument and liber. I take in all the fees for registrations, searches, abstracts and certified copies, in fact all the cash. There were over 100 instruments taken in by me one day. I can't say what the average number of instruments taken in during the year. I have heard complaints being made as to instruments being left off on different occasions. I receive $9 a week. I have seen as many as sixty or seventy people in the office at one time, some searching and some with their clients, etc.

To Mr. LINDSEY.—I have had an increase of $50 a year since I came here. It was a very unusual occurrence when 100 instruments were registered on one day. These were mostly registered by two persons; also an unusual occurrence when 60 or 70 persons in the office at one time. I think that there would be an average of about 30 persons at one time in the office during some part of each day during the year.

W. R. WILLIAMS.

ALBERT COLLINS, sworn, states.—I have been in the City Registry Office for nearly four years. I copy for the most part in libers and make certified copies and fill out abstracts of title. If the abstract is simple or from the filing of a plan I make out the abstract without any assistance from Mr. Layburn as it is straight copying. In more difficult cases he gives me the numbers of the instruments which I am to transfer. He and I go over my work with the Abstract Index book after I have finished it. I remember abstracts of title being returned for correction, where instruments were left off; this has not often occurred. Very seldom. I receive two cents a folio for copying into libers and three cents for certified copies and abstracting. I can write about twelve or thirteen folios an hour. I generally come here about 9.30 a.m., and sometimes I leave about 6 and sometimes later, sometimes I leave earlier than 6. On Saturday I leave at

3 p.m. I am an unmarried man. For the last three months I have made an average of $13.25 per week. I think I made more than any of the other copying clerks as I may be a faster writer. I don't compare my copying. I can't tell whether two cents a folio for copying is a fair remuneration.

To Mr. LINDSEY.—I make fair remuneration at two cents a folio. I have always expressed myself satisfied with my remuneration. I am not tied to any particular hours as long as I keep my work up.

ALBERT H. COLLINS.

LEUMAS GOULD sworn, states.—I have been in the city registry office since Feby., 1881, as copying clerk. I have always received two cents per folio during that time. I make an average of about $10.00 per week, all the year round, working about eleven hours a day, on an average. I only take about one-fourth of an hour at my meals. Two cents a folio is all I can get. I think it should be higher. I can only write about nine folios an hour, all the day through, and two cents a folio makes only eighteen cents an hour, which I consider low wages. I haven't tried to get any other work to do, nor have I asked for any more.

To Mr. LINDSEY.—I think $12.00 a week, instead of $10.00, would be a fair remuneration. I didn't think that nine folios an hour, and eleven hours a day, would make $12.00 a week. I only work to 12:30 or 1 p. m., on Saturdays. The average hours I work per day, all the year round, would be about ten hours. I have put in as much as fourteen hours a day when work was very pressing, and when I was anxious to make a large amount. I don't write as fast as I used to; have been in poor health for a year. I keep a family of four children, they are my wife's to her first husband. Two of them are at work. I recommended Hannaford for extra work, at two cents per folio. He was away and has returned. He is only here at night. His work ran out when here before, and that is the reason he left.

LEUMAS GOULD.

WILLIAM E. FOSTER sworn, states.—I came to the city registry office as copying clerk in September, 1884, and have remained here ever since, as such. I received two cents a folio. I write between nine and ten folios per hour, on an average. I work between nine and ten hours a day, except Saturday, when I leave about 1:30 p. m. I couldn't say two cents a folio is or is not a fair remuneration for the work. I make about $9.50 per week, on an average. I am satisfied with two cents per folio. We get paid according to the number of folios marked on the instrument. Discharge of mortgage we charge according to the number of folios. We use our own discretion as to the folios.

W. FOSTER.

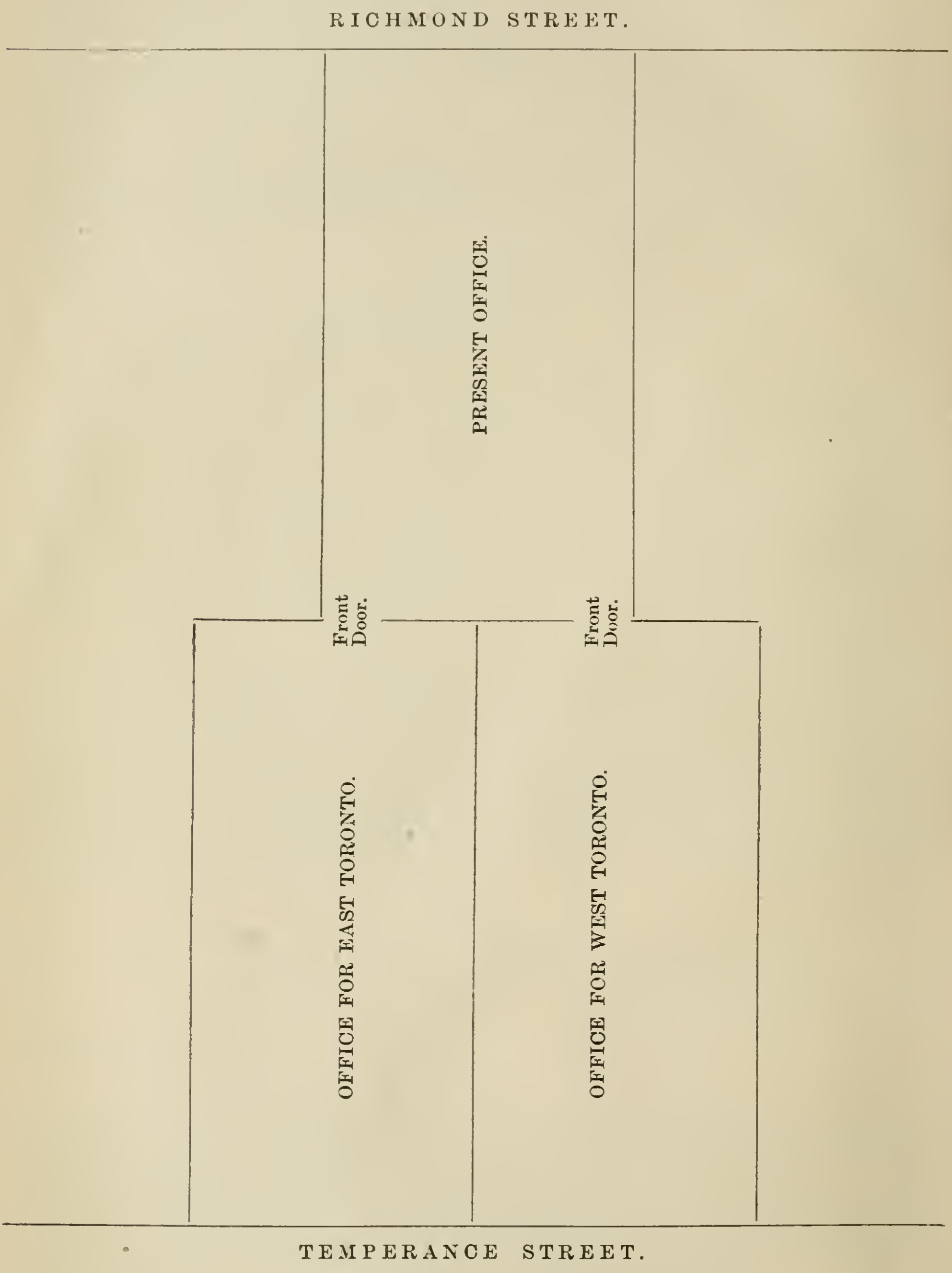
[5. LETTER, S. W. MCKEOWN, SUGGESTING THREE DIVISIONS.]

TORONTO, 19th December, 1888.

To the Honorable
THE ATTORNEY-GENERAL FOR ONTARIO.

SIR,—If the Toronto registry office is to be divided into two, I would respectfully suggest, as a member of the legal profession, and one who is interested, (1) That the new offices, I presume for east and west Toronto, be given a new start or beginning, that is, all registrations should commence, say from the first January, 1889, in the respective offices. (2) That all the books, deeds and plans registered prior to this date, be allowed to remain where they are, thus saving all costs of re-copying, and that all searches be made and abstracts given of titles, up to the end of the year 1888, in the present office. (3) That an officer be appointed and placed in charge of the above-named books, deeds, and plans, whose duties should be to attend to the persons desirous of searching, and make all abstracts required, and this office be called the clerk of titles of the city of Toronto, or some other appropriate name. (4) That after searching the titles, or obtaining abstracts to the end of 1888, the subsequent searches into titles from that date would be very simple, in the two new registry offices, and no fees should be allowed to the respective registrars for this, as they would be very amply paid (after paying the rebate to the city) by the registration fees charged for deeds, etc. The officers could be all under one roof, as per sketch, enclosed herewith, and the public would be to put to very little, or no inconvenience. The fees paid for searches and abstracts, at the same rate as now charged, would, I submit, pay the new officer and an assistant for the next ten years, after that the operation of the Land Titles Act, and the statute of limitations might render the office, in a great many instances, unnecessary. The certificate of the clerk of titles to an abstract should, of course, be made of the same effect to the public as that of the registrar now is. The offices could be very well maintained by the city corporation out of the rebate or share of the fees they would receive from the two registrars.

I have the honour to be,
Sir,
Your obedient servant,
S. W. McKEOWN.


RICHMOND STREET.
PRESENT OFFICE.
Front Door.
Front Door.
OFFICE FOR EAST TORONTO.
OFFICE FOR WEST TORONTO.
TEMPERANCE STREET.

[6. LETTER, McMICHAEL, HOSKIN & OGDEN TO MR. WINCHESTER.]

OSGOODE HALL,
City.

JOHN WINCHESTER,
Inspector Public Offices.

DEAR SIR,—We desire to draw your attention to the condition in which business is carried on in the city registry office here. Yesterday the writer spent nearly two hours in taking down from the abstract book about a dozen numbers, and in getting the books to look at, three out of those taken down. The chief difficulty being that the attendance behind the counter is totally inadequate, and even out of those there (the lads), there is not sufficient attention to their business, as it keeps one or more of the older clerks a considerable portion of the time hunting or urging them to give better attention to those who are desiring the books.

It appears to us that the registrar still considers that the aid required there is not greater than it was seven or eight years ago. The amount of time lost by the public in waiting for some one to give them the books is enormous, and the matter ought to be remedied at once.

Yours,

McMICHAEL, HOSKIN & OGDEN.

[7. REPORT OF THE INSPECTOR OF LEGAL OFFICES UNDER COMMISSION.]

TORONTO, MARCH 6TH, 1888.

To the Honourable
SIR ALEXANDER CAMPBELL, K.C.M.G.,
Lieutenant-Governor of the Province of Ontario in Council.

SIR,—I have the honour to make the following report, touching the inquiry held by me, by virtue of the commission issued under the Great Seal of the Province of Ontario, directing me to inquire into certain alleged irregularities in the office of the Registrar of Deeds for the city of Toronto, and concerning the condition and business of the said office, and also to report my opinion as to any regulations or changes in the said office which might appear to me desirable in the premises.

On Monday, the 13th day of the said month of February, pursuant to notice, I commenced the said inquiry in the presence of Charles Lindsey, Esquire, Registrar, who was attended by his solicitor, and continued the same on the 14th and 16th days of the said month of February.

I examined the Registrar, his two deputies and several of the clerks and writers in his office with reference to the condition and business of the said office and the alleged irregularities therein, having first made a personal inspection of the matters hereinafter particularly mentioned.

In his examination, the Registrar, Charles Lindsey, stated that complaints had been made as to irregularities in his office; that about a year and a-half ago a complaint was made that some instrument was not entered in the Abstract Index Book; also, complaints were made that the writing in some of the libers was not as good as it should be, and that some documents had been incorrectly copied. This incorrect copying was found to have been carried to such an extent that seven libers supplied by the corporation of the city of Toronto had to be re-copied. He also stated that, in October last, he paid Mr. J. A. Mulligan, a solicitor, the sum of thirty dollars for an alleged omission that had been made in an Abstract Index Book, and which was alleged to have been corrected after Mr. Mulligan had passed the title, the said sum being a compromise of the amount claimed, as the Registrar contended that the correction had been made prior to Mr. Mulligan searching. He further stated that mistakes had occasionally been made in the Abstract Index

Book, and that sometimes instruments had not been compared after they had been entered in the Register. He also stated that the public was not, since the new addition was erected, free from inconvenience through overcrowding.

Mr. Layburn, one of the deputy-registrars, in his evidence states that several complaints were made and mistakes found in the Abstracts issued, and also that mistakes had been pointed out to him in the Abstract Index Book by practitioners. He further stated in his examination that several Abstract Index Books were in a very bad state of repair, with leaves entirely loose although not missing, and that complaints had been made to him in consequence of inattention of the lads upon the public with books when requested.

The examination of Mr. William Bennett, Deputy, and Mr. A. R. Bennett, Clerk, also showed that solicitors had drawn attention to instruments that had not been entered in the Abstract Index Books against the lots described in such instruments.

It further appeared from the evidence given that on one occasion there were as many as sixty or seventy persons in the office at one time, and that thirty was the average number of persons who were in the office at one time during some part of each day during the year.

Upon the personal inspection I made of the various books of the offices and the entries made therein, I found many mistakes; for instance, instruments not registered in the Abstract Index Book against lots described in them; others registered only against some of the lots mentioned and not against others; a great many interlineations in the Abstract Index Books, and in other books a number of leaves loose and blotted; these circumstances evidencing gross carelessness on the part of the officers employed.

It is shewn in the evidence that the Registrar during the past year, in consequence of building operations going on in his office, deputed the working of the office to Mr. Layburn his first Deputy, who has in my opinion as much as he can attend to in making out the abstracts of titles and such work, without having the additional duty of looking after the clerks in the office; the result being that some of the clerks or lads in the office have not performed their duties as carefully as they should have done in the interest of the public.

After the issuing of the commission, several members of the legal profession spoke to me with reference to the great inconvenience they had been been put to in not being waited upon properly while in the registry office, and also of the trouble and annoyance they had suffered in consequence of the many mistakes in registering or omitting to register instruments against the proper lots, and from errors arising in abstracts of titles issued to them from the office. In making the inquiry as directed by the said commission, I intended examining these members of the legal profession as to their several grievences, but inasmuch as the Registrar recommended a division of his office, as a means of remedying the evils complained of, and which in my opinion would have that effect, I did not consider it necessary to continue the said investigation further.

In his examination at page 17, the Registrar gives the following evidence :—

Q.—"It is stated by solicitors, Mr. Lindsey, that they suffer considerable inconvenience in making searches and transacting business in this office; if this be true, what is your opinion would be the best means of remedying this evil?"

A.—"I believe the work of the office is done as well and as expeditiously as possible, but no doubt the future has to be considered, and here arises the practical question which it will be impossible long to put off; in whatever form, increased room must soon be required, the present building with the new addition, is even now in some respects barely up to the requirements, and in two years at the present rate of increase the shelf room for the books will all be occupied. It has taken about a year and a half to make the present addition to the building, and the work is still unfinished, copying clerks being in another building. It is quite clear that there is no time to be lost for preparing for future requirements; the area of the city is constantly increasing by annexations, and there is now a question of Parkdale coming in. The present building, which has cost something like $40,000, is not more than sufficient for present needs, and must in the near future either be abandoned or utilised only for the amount of business which is possible to carry on within it. If its use is to be continued for registration purposes, it will only suffice for that section of the city which lies west of Yonge Street, and in which it is situated. This no doubt, implies a division of the city for registration purposes, and in that case, a new building would have to be put up east of Yonge Street. The reason I mention Yonge Street as the line of division is, that it is the practical one owing to the manner in which the books of the office have been kept. Though division would naturally be disadvantageous to me as Registrar, I should on public grounds recommend it as the best means of meeting the difficulty which is now in sight, and for which preparation ought in my opinion to be made not later than the end of the current year."

As already stated, I am of the same opinion as the Registrar, with respect to the means to be adopted in remedying the evils complained of by the public, namely, the division of the city for registration purposes.

I would respectfully recommend that the City of Toronto be divided into two divisions for registration purposes, namely: East Toronto and West Toronto. The former division to comprise the district lying east and south of the following boundaries, namely: The centre line of Simcoe Street as far north as the centre line of Queen Street West; thence easterly along the centre line of Queen Street to a point where the centre line of College or Queen Street Avenue if produced south would intersect such centre line of Queen Street; thence northerly, along the said centre line of College or Queen Street Avenue, such centre line being the easterly limit of Park lot 12, and along such easterly limit through the Queen's Park, and thence along the centre line of Avenue Road to the northerly limit of the City of Toronto; such district also to include Toronto Island lying south of the said City.

The west division to comprise the district lying to the west and south of the following boundaries, not including the Toronto Island: The centre line of Simcoe Street as far north as the centre line of Queen Street West; thence easterly along the centre line of Queen Street to a point where the centre line of College or Queen Street Avenue, if produced south, would intersect such centre line of Queen street; thence northerly along the said centre line of College or Queen Street Avenue, such centre line being the easterly limit of Park Lot 12, and along such easterly limit through the Queen's Park, and thence along the centre line of Avenue Road to the northerly limit of the City of Toronto.

I have the honour to forward herewith the evidence taken by me, the papers herein, and the commission issued.

I have the honour to be,
Sir,
Your most obedient servant,
JNO. WINCHESTER,
Commissioner.

[8. LETTER, JAMES THOMPSON TO HON. O. MOWAT.]

TORONTO, 13th April, 1887.

SIR,—As I see that several members have Bills before the Ontario Legislature to amend the Registry Act, I take the liberty of suggesting to you one or two amendments that, in my opinion, would be advantageous; and, with reference to the Registry Office for the City of Toronto, I think it is the opinion of that part of the legal profession who are inflicted with the necessity of searching titles in it that the office should be sub-divided at least into three: from the east end of the city to Yonge St., from Yonge St. to Bathurst St., and from Bathurst St. to the west end of the city. However, as I understand that Mr. Scott, the Master of Titles, is so very often in the office I would suggest that he is the very best person to consult as to the advisability of my suggestion.

With reference to the amendment as to abstract indices, this would save an immense amount of public time, and this section should be retroactive.

Yours very obediently,
JAMES THOMPSON.

The Honourable
O. MOWAT, Attorney-General, etc.

[9. LETTER OF THE INSPECTOR OF LEGAL OFFICES TO THE ATTORNEY-GENERAL.]

TORONTO, January 31st, 1889.

DEAR SIR,—I forward herewith draft Bill amending the Registry Act and providing for the division of Toronto.

You will observe that I have provided for the registration of letters of administration, as well as permitting the sub-division of any lot into blocks for abstract purposes which the Inspector may deem necessary in the interests of the public.

I also propose to amend section 28 of the Registry Act by providing for copying into a registry book such instruments as may be handed over to the new Registrar without any copy, in consequence of their having been copied into a register that cannot be handed over. For example, instruments relating exclusively to a portion of the township of York annexed to Toronto can be handed over, but having been copied into the register containing instruments relating to other portions of the township not annexed, and for that reason such register cannot be delivered to the city Registrar, and no copies of such instruments are in consequence handed over. The proposed amendment will remove this difficulty.

I also provide for the proof of execution of maps or plans, and the giving power to registrars to refuse any plan not complying with the provisions of the Act and instruments referring to unregistered plans.

I have also drawn up a clause dealing with interlineations in abstract index books.

I have provided for retaining all books affecting property in both divisions in the office of the western division, and also registration of all instruments relating to lands in Toronto, but without a local description in the western division, so that this will be a benefit to the registrar for that division.

I remain,
Yours faithfully,

JOHN WINCHESTER.

The Honourable
O. MOWAT,
Attorney-General, etc., etc., etc.

[10. LETTER FROM MEMBERS OF THE LEGAL PROFESSION.]

To the Honourable O. MOWAT,
Attorney-General for the Province of Ontario.

SIR,—Understanding that it is the intention of the Government to divide the City Registry Office, we would urgently request them to take such measures as may be necessary to keep the two offices in one building, as so doing would be a great convenience to the legal profession, and it would also, we consider, be a saving of expense and time.

We would further beg to suggest, if means could be devised by which the services of Mr. Layburn, the present deputy, could be retained to the public for the purpose of making abstracts for *both* offices, it would be a great public advantage, he having been in the office, we understand, eighteen years, during which time he has become very familiar with the various titles, and we are satisfied he can do the necessary work far more expeditiously and inspire confidence in the correctness of the work done than if performed by any person not familiar with the work, which it would be extremely difficult for any stranger to do, many titles in the city office being very difficult to follow, from (1) The numerous changes of names of streets; (2) Vague descriptions of lands, many being described according to plans which have never been registered, and are, therefore, very troublesome, and to a stranger almost impossible to identify; (3) Want of knowledge of or acquaintance with the names and pedigrees of the old Toronto families and land owners; (4) Want of knowledge or familiarity with the many sub-divisions of properties that have taken place in Toronto property since the original grants from the Crown.

With most of the foregoing, Mr. Layburn, from long service and study, has made himself acquainted, and his continuance in office we consider of great help to the public and the legal profession particularly; in fact, without his assistance, in very many searches, it is impossible to get along without a great expenditure of time and trouble.

And we, the members of the legal profession, practising in Toronto, respectfully submit the above:—

Mulock, Tilt, Miller, Crowther & Montgomery,
Bosworth, Hodgins & Campbell,
Armour, Gordon & Williams,
E. M. Chadwick,
W. H. Brouse,
Thomson, Henderson & Bell,
D. Faskin,
Bigelow & Morson,
Drayton & Dunbar,
Geo. Macdonald,
Beaty, Hamilton, Cassels & Standish,
Ferguson, Ferguson & O'Brien,
Garvin & Garvin,
Moss, Barwick & Franks,
Geo. W. Meyer,
E. W. Boyd,
R. Gilray,
MacLaren, Macdonald, Merritt & Shepley,
Francis & Wardrop,
T. C. L. Armstrong,
John MacGregor,
W. Mortimer Clark & Gray,
R. U. McPherson,
F. W. Kingstone,
D. A. O'Sullivan,
M. Richard & Cassels,
Haverson & St. John,
John Leys,
H. Robinette,
Frank A. Anglin,
Greene & Greene,
Fraser & McKeown,
H. W. Mickley.

[11. COPY OF A RESOLUTION passed at the meeting of the Trustees of the York Law Association, held on Saturday, January 26th, 1889.]

Whereas, under the system of registration which is at present in force in the City of Toronto, the lands within the said city are divided into park lots, containing one hundred acres each, and town lots of smaller area, upon which respective park lots or town lots all instruments affecting the lands therein contained are registered until the owners of said lands choose to register plans relating to their holdings;

And Whereas, in many instances no plans have been registered upon the said park lots or town lots, or upon considerable portions thereof, by reason whereof it is necessary that each person who is called upon to search the title to the smallest portion of the said lands shall peruse all instruments registered upon the said park lots or town lots for the purpose of ascertaining whether they, or any of them, affect the title to the particular lands in question, which instruments in many cases amonnt to several thousands in number, and to peruse which necessarily consumes a great amount of time and involves the incurring of great risk and expense.

And Whereas it is expedient that the Registry Laws and the Registry Offices should be so framed and regulated as to afford the greatest possible facilities to persons searching titles to land;

Be it therefore Resolved, that in the opinion of this Board, before any sub-division of the Toronto Registry Office be made, the grievances aforesaid should be removed by legislation, providing for the sub-division of all the lands in the City of Toronto into small blocks or sections;

And providing for the preparation of abstract indices in books of a convenient size relating to the said sub-division, each of which abstract indices shall extend from the Crown Patent onwards, and shall contain those registrations only that affect the sub-division to which the said abstract index relates ;

And providing that whenever a plan of any lands has been, or may be registered in the said registry office, an abstract index shall be prepared in abstract books relating to the lands comprised within the said plan, which abstract index shall extend from the Crown Patent onwards, and shall contain those registrations only that affect the lands comprised within the land to which the said abstract index relates ;

And providing that the said abstract indices shall, with reference to each instrument wherein mentioned, indicate as concisely as may be the lands which are by the said instrument affected ;

And providing for the duplication or further multiplication of the said abstract indices as convenience shall require ;

Be it further Resolved, in the opinion of this Board, the above-mentioned reforms can be better secured by the continuance of the said existing system of registration under the Registry Act, presided over by a single registrar, than by a subdivided system and a multiplication of offices.

THOS. URQUHART,
Secretary of Y.L.A.

TORONTO, January 28th, 1889.

[12. LETTER FROM THE ATTORNEY-GENERAL'S SECRETARY TO MR. URQUHART.]

February 5th, 1889.

DEAR SIR,—With reference to the resolutions of the Trustees of the York Law Association, I am desired by the Attorney-General to say that in his bill there will probably be provisions to cover the suggestions contained in the 1st, 2nd, 3rd, 4th and 8th of the suggestions. As to the 5th and 6th suggestions, viz., with reference to an abstract index being made on every sub-division of a lot, tracing the title from the Crown, this, if practicable, would no doubt be very convenient, but some well-considered provisions would be necessary to make it practicable, and to ensure accuracy. It is often very difficult for a solicitor well-versed in conveyancing to decide whether some instruments relate to the particular lot, and to require the Registrar to do so on his own judgment and responsibility would hardly do. The Attorney-General would be glad if such of the trustees as take an interest in the matter would consider what provisions would be reasonable and safe to carry out the suggestions made on this point, and put them into the form of statutory clauses that he may consider them. The 7th suggestion also seems useful, and the Attorney-General is informed that many of the registrars give such particulars in the abstract indices now.

Yours truly,

(Sd.) S. T. BASTEDO.

THOS. URQUHART, ESQ.,
Barrister, Toronto.

[13. Reply on Behalf of the York Law Association.]

The County of York Law Association,
Toronto, 8th February, 1889.

The Honourable,
The Attorney-General of Ontario,
Toronto.

Sir,—Referring to Mr. Bastedo's letter of the 5th of February to Mr. Urquhart, Secretary of the Law Society, I beg to reply:—

The trustees of the Law Association have caused enquiries to be made relative to the practical operation of the proposed provision, if the same were made to apply to the Toronto Registry Office, and find that the present registrar does not anticipate that there would be any insuperable difficulty which would prevent the carrying of these suggestions into effect.

The fact is that at the present time a person can order and procure from the Registrar of Toronto, an abstract of title from the Crown to the present date, which is certified by the registrar to contain all those instruments from the Crown and those instruments only which purport to affect or appear to affect the title to the particular parcel of land in question.

The difficulty just at present experienced with regard to such abstracts, is that the pressure of work in the Registry Office makes it necessary that the person desiring such abstract shall wait several days before he can procure the same.

If the provision in the draft clause annexed hereto be adopted, the registrar will incur no greater liability in respect of the abstract index which is therein provided for than he already daily incurs in giving abstracts of the title such as above referred to. Indeed he will not incur so great a risk under the proposed clause as he now does under his present practice, for it is to be presumed that an abstract index prepared under the proposed clause will be prepared with greater deliberation and care than is usually bestowed upon the abstracts of title which are now given out in the ordinary course of business. And further it is to be observed that the proposed clause require the registrar to index those instruments and those only which expressly purport to affect the land in question. While as to those instruments which do not expressly purport to affect the lands, but which in fact did affect or appear to affect or may affect the same, the registrar is to act upon his own opinion, and he will incur no legal responsibility unless he act contrary to what would be the case of a reasonable man placed in his circumstances.

It is to be borne in mind that the registrar with regard to specific parcels of land is already and constantly doing more than the clause in question requires him to do with regard to all the lands in the city, while solicitors are daily being called upon to certify as to all the instruments which affect any particular square foot of land within the whole city.

Under the present system abstract indexes such as those called for by the draft clause are being prepared with reference to individual transactions relating to the various parcels of land and such transactions with regard to such parcels of land are not infrequently repeated half a dozen times per year when the titles to such parcels are passed by different solicitors.

Under the proposed system the work of preparing the abstract indexes when once done will be done for all time and it will not be necessary to wait several days for the purpose of procuring an abstract of title or to pay a special fee for the purpose of getting the abstract in the desired form.

The following is a proposed clause:—

"It shall be the duty of the Registrar of the City of Toronto, within a reasonable time after the sub-division of the lands in the said City of Toronto into blocks or sections as hereinbefore provided, to prepare for each of the said blocks or sections in a book of convenient size, an 'Abstract Index' relating to the lands contained in such block or section, which 'Abstract Index' shall be in form as hereinbefore provided, and shall extend from the Crown Patent onward and shall contain entries as well of all instruments which have been registered as of those which shall hereafter be registered in the said Registry Office, and which expressly purport to affect the lands included within the said block or section or any of the said lands;

"And the said 'Abstract Index' shall further contain entries as well of all instruments which have been registered as of those which shall hereafter be registered in the said Registry Office, and which in the opinion of the said registrar do affect or appear to affect or may affect the lands included within the said block or section or any of the said lands."

A similar section should be inserted as to the abstract indexes relating to plans.

I have the honour to be, Sir,
Your obedient servant,.

(Signed) WALTER BARWICK.

[14. Mr. Winchester to Attorney-General.]

Osgoode Hall, Toronto, 21st February, 1889.

Dear Sir,—I have just received the enclosed statement of the number of instruments registered in the city office during the past two years. The total number in 1887, east of Spadina Avenue, was 8,551, and west of Spadina Avenue, 8,380, a difference of 171 in favour of the east. In 1888, east of Spadina Avenue, 9,252; west of Spadina Avenue, 8,998, a difference of 254 in favour of the east. This does not include Mechanic's Liens, or discharges of such, which were very numerous in West Toronto, and no doubt will make up the difference or nearly so.

Of course the annexation of Parkdale will increase the number of registrations for the west.

Mr. Lindsay called upon me yesterday and the day before, and proposes the division to take place at Spadina Avenue, he to retain the western division. This, he says, will be quite satisfactory to him.

Under the circumstances, therefore, the dividing line will be Spadina Avenue continued north and south to the northern and southern limits of the city.

I remain,
Yours faithfully,

(Signed) JOHN WINCHESTER.

The Honourable,
O. Mowat,
Attorney-General, etc., etc., etc.

The following is the number of instruments registered in the Registry Office of the City of Toronto (not including Mechanics' Liens) in the under-mentioned districts during the years 1887 and 1888:—

1887.		
East of Yonge Street....	5,379	8,551.
Between Yonge and Spadina Avenue	3,172	

1887.		
Between Spadina Avenue and Bathurst Street.	2,314	8,380.
All west of Bathurst St..	6,066	

1888.		
East of Yonge Street....	6,462	9,252.
Between Yonge and Spadina	2,790	

1888.		
Between Spadina and Bathurst Street	1,983	8,998.
All west of Bathurst St..	7,015	

(Signed) CHARLES LINDSEY,
Registrar.

SIXTH ANNUAL REPORT

OF THE

INSPECTOR OF LEGAL OFFICES

FOR THE YEAR

1888.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.

TORONTO:
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1889.

SIXTH ANNUAL REPORT

OF THE

INSPECTOR OF LEGAL OFFICES.

OFFICE OF THE INSPECTOR OF LEGAL OFFICES, OSGOODE HALL,
TORONTO, March, 1889.

To the Honourable O. MOWAT,
Attorney-General of Ontario, etc.:

SIR,—I have the honour to present this my sixth annual report on the inspection of the county judicial officers throughout the Province for the year ending the 31st December, 1888.

During the past year I inspected 265 of the offices under my supervision; that is to say, the offices of 41 sheriffs, 41 local masters, 14 deputy registrars, 29 local registrars, 29 surrogate registrars, 29 county and district court clerks, 41 county attorneys, and 41 clerks of the peace.

The following officers were appointed during the year, namely :—

Sheriffs.—Joseph Henry Widdifield, Esq., on the 8th June, 1888, as successor of the late Fred. W. Jarvis, Esq., Sheriff of the County of York. William Henry Carpenter, Esq., on the 28th July, 1888, as successor of John McQuarrie, Esq., Sheriff of the District of Rainy River, who resigned his office. James Whitney Bettes, Esq., on the 28th April, 1888, as Sheriff of the District of Muskoka. Henry Armstrong, Esq., on the 12th of May, 1888, as Sheriff of the District of Parry Sound.

County Attorneys.—Thomas Grey Matheson Esq., appointed on the 25th February, 1888, as successor of the late John Dewar, Esq., as County Attorney and Clerk of the Peace for the County of Halton. A. Aird Adair, Esq., appointed on the 26th May, 1888, Crown Attorney and Clerk of the Peace in and for the United Provisional Judicial District of Muskoka and Parry Sound.

Local Masters.—Fred. W. Thistlethwaite, Esq., appointed on the 21st day of January, 1888, in the place of the late Judge Daniel, Local Master at L'Orignal. His Honour Judge Mahaffy, as Local Master of the United Provisional District of Muskoka and Parry Sound.

Local Registrars.—Richard Hardinge Stewart, Esq., appointed on the 28th April Local Registrar of the High Court of Justice at Parry Sound, Clerk of the District Court of Muskoka and Parry Sound, and Deputy Registrar of the Surrogate Court for the District of Muskoka and Parry Sound. Isaac Huber, Esq., appointed on the 28th April Deputy Clerk for the District of Muskoka of the District Court of the United Provisional Judicial District of Muskoka and Parry Sound, and Deputy Registrar for the said District of the Surrogate Court of the said United Provisional Judicial District of Muskoka and Parry Sound. Wm. Stoten Francis appointed on the 12th May, 1888, Deputy Clerk of the District of Manitoulin of the District Court of the Provisional Judicial District of Algoma, and Deputy Registrar for the said District of Manitoulin of the Surrogate Court of the said Provisional Judicial District of Algoma.

SHERIFF'S OFFICES.

I am pleased to be able to report that there has been a noticeable improvement in the manner in which the duties of these officers have been performed during the year and in the charges made by them. Very few complaints have been made as to overcharging, and I am not aware of a single application having been made to the Courts against a Sheriff during the past year, either on account of non-payment of moneys or in consequence of overcharges. In several cases of difficulty, arising between Sheriffs and litigants, the matter has been referred to me, and I have given such directions as have solved the difficulty without application to the Court, thus saving not only expense but a great deal of time and annoyance. Notwithstanding the improvement referred to, I found in the course of my inspections that some of these officers were still careless in their charges and in making proper entries in their books of office.

In my former reports I have pointed out in detail the various items of overcharges made by several of these officers, and also wherein neglect of entries have more frequently occurred, and although some of the officers are still in the habit of making some of these overcharges pointed out by me, my annual inspections have reduced the cases in which this occurred.

I have also inquired into the sufficiency of the security given by these officers, and in several cases have had new convenants entered into by them.

In Appendix "A" I have set forth in tabulated form statistical returns made by Sheriffs to me for the year 1888.

LOCAL MASTERS.

With one or two exceptions these officers have carried out my instructions given to them from time to time, in the matter of their charges, and also as to making proper entries However, during my inspections I occasionally found that in taxations some of the Masters were still careless in allowing items that should not be allowed. There has, however, been considerable improvement in this respect.

On the 1st September last the new Rules of Procedure, together with the new Tariff, came into force. The most important change in the Local Master's Tariff is with reference to sales conducted by Local Masters, instead of commission being allowed as formerly, the same fee per hour is now allowed as when the Master is occupied in a reference. During the past year the following officers have commuted their fees, namely: R. O'Hara, Local Master and Deputy Registrar at Chatham from the 1st of April at $1,600 per annum for both offices; and S. S. Lazier, Local Master and Deputy Registrar at Belleville on the 1st November at $3,000 per annum for both offices.

The following are the Masters who have commuted their fees to the present time:—Miles O'Reilly, Q.C., and J. E. O'Reilly, Local Masters and Deputy Registrar at Hamilton; H. McDermott and S. Malcolmson, Local Masters and Deputy Registrars at Goderich; His Honour Judge Dean, Local Master at Lindsay; His Honour Judge Jones, Local Master at Brantford; His Honour Judge Lacourse, Local Master at Berlin, and R. O'Hara and S. S. Lazier, as above stated.

The commutation of the fees of these officers has increased the labour in inspecting their offices, as it is necessary to ascertain that not only the proper charges in each case have been made but that the stamps therefor have been collected.

I have in Appendix "B" set forth the business transacted by the Masters during the year, showing an increase on former years.

LOCAL REGISTRARS, DEPUTY REGISTRARS, DEPUTY CLERKS OF THE CROWN AND COUNTY COURT CLERKS

I found the improvements in these offices much greater than in any other offices inspected, evidencing a desire to carry out my instructions given from time to time. Overcharges by these officers are very seldom made. The new tariff which came into force on the 1st September last has been the means of settling the practice as to certain items of charges which had hitherto been in doubt, thus enabling the officers to be more uniform in their charges and taxations. Formerly under Rule 265 of the Judicature Act, where the Deputy Clerks of the Crown and Deputy Registrars in a County were not the same person, all actions for trial at the assizes required to be entered with the Deputy Clerk of the Crown, but the Deputy Registrar was required to attend the trial of such actions as were brought in the Chancery Division, and entitled to the same fees as if the cause had been set down with him for hearing. Under this rule a great deal of unnecessary trouble and expense were occasioned in consequence of two officers being in attendance at the assizes at the same time, and two sets of fees being sometimes demanded and paid. This rule having been abolished the actions are now entered with the officer presiding at the trial, and but one fee paid, thus simplifying the practice in this respect and making this part of litigation less expensive.

Appendices "C" and "D" contain statistical returns of business transacted by these officers during the past year.

SURROGATE REGISTRARS.

These officers are now very generally carrying out the instructions given to them, and in consequence very little trouble arises through neglect of duty or overcharging. The only cause for complaint which I found in my inspections was the want of stamps on papers leading to grant, and this was occasioned in most cases through the stamp distributor for the county not having a sufficient supply on hand at the time they were required. In my report of last year I mentioned that the Registrar should charge in every case: order for grant, 50c.; order approving bond, 50c.; attendance, $1.00; order for inventory, where directed to be fyled, 50c. My attention, however, having been called to *Re* Dallas, 29 Q.B., 482, I issued the following circular:

SIR,—During my inspection in 1887 I discovered that may of the Registrars of the Surrogate Courts charged on behalf of the Judge a fee of one dollar for his attendance in granting an order approving the bond, in some cases, and in others directing an inventory to be fyled; and in my last annual report, referring to this matter, I stated that the Registrars should charge in every case: order for grant, 50c.; order approving bond, 50c.; attendance, $1.00; order for inventory, where one directed to be fyled, 50c.

Since then my attention has been called to the decision of *Re* Dallas, 29 Q.B., 482, where His Lordship states:—"For a mere routine attendance I think a special charge is not properly made, etc."

Under this decision, therefore, nothing is to be collected for an attendance, unless the attendance should "require special care and a special adjudication."

Kindly bear this in mind, and only collect the attendance fee when special.

In one or two offices I found that the Registrar had charged for fyling the papers leading to grant. No charge should be made for fyling papers in non-contentious business in connection with the issuing of the grant. In non-contentious matters the Registrar is only entitled to charge for fyling papers which are required to be fyled after grant has issued.

I also found that some Registrars charged 10c. a folio for drawing an order for grant, etc.

This cannot be charged, see *Re* Dallas, at page 486.

In Appendix "E" I have set forth statistical returns of business transacted by these officers during the past year.

COUNTY ATTORNEYS AND CLERKS OF THE PEACE.

In my inspections of these officers I found that several of them had not entered the Returns of Convictions by Justices of the Peace in their Session Book or in any other book kept for the purpose, but had merely pasted a printed copy of the returns in a separate book. As this was not in compliance with the requirements of the Statute, section 6, chapter 76, R.S.O., I gave instrucrions in each case to have the returns properly copied into the Sessions Book. In many of the returns of convictions made by Justices of the Peace to Clerks of the Peace, and forwarded to me by these officers, nothing is mentioned as to fines paid since the making of their former returns by such Justices of the Peace.

The returns of fines received by County Attorneys, under Order in Council dated 9th October, 1885, have been made to me much better during this year than in the past two years. There is still, however, room for improvement in this respect.

Appendix "F" contains a summary of convictions returned by Justice of the Peace throughout the Province of Ontario during the year ending 30th November, 1888, together with the amount of fines imposed, collected and appropriated, and the number of persons imprisoned thereunder.

I have also appended in schedule "G" a summary of the convictions made to me by Police Magistrates under chapter 77 R.S.O., showing the amount of fines imposed, collected and appropriated, and the number of persons imprisoned thereunder. Not receiving the returns of convictions from Police Magistrates as required by R.S.O., chapter 77, section 8, as promptly as was desirable, I forwarded to each of them a copy of the following circular, and since then I have not had so much cause for complaint, although some of the returns are still delayed unnecessarily :—

DEAR SIR,—I have the honour to draw your attention to section 8 of chapter 77, R.S.O., 1887, which requires every Police Magistrate to forward to this office, on or before the second Tuesday in each of the months of March, June, September and December of every year, a copy certified by him to be a true copy of the entries in his book in respect of convictions had before him, or fines, forfeitures, penalties or damages imposed by him during the three months ending on the last day of the months of February, May, August or November, next preceding such second Tuesday, with a statement of any transactions which have taken place during the time covered by the said period, with reference to any conviction made, or fine, forfeiture, penalty or damages imposed by him during any previous year.

It is absolutely necessary that I should be furnished with such return within thirty days of the expiration of each quarter. If no conviction is made during such quarter a certificate to that effect should be sent.

Separate returns should be made for each district or town under your jurisdiction, with the name of the town or district embodied in certificate at foot and signed by the Police Magistrate with date and post office address.

Kindly acknowledge receipt of this circular, and if your returns have not been sent for the past year, or any portion of it, please forward same at once."

In Appendix "H" I have set forth a schedule containing a return of all fees and emoluments earned, received and disbursements made by the above-named officers for the past year.

I have the honour to be,
Sir,
Your most obedient servant,

JOHN WINCHESTER,
Inspector of Legal Offices.

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APPENDIX A.—Containing in Tabulated Form Statistics as Returned by the different Sheriffs for the year ending 31st December, 1888.

Waterloo	52	[illegible]		1	[illegible]		[illegible]	11	127			40	41	[illegible]	[illegible]	1	1	2	1		[illegible]		[illegible]			2	14	10	[illegible]	6011 33	1937 72	705 21	[illegible]	[illegible]	81 00	17 00						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	100 00	[illegible]	[illegible]	5288 37	
Welland	21	21	2	27		4	7	16	130	1		12	[illegible]	[illegible]	[illegible]	7	13	12	12	[illegible]	3	2	1	1				8	19062 67	[illegible]	467 23	500 00	415 40	[illegible]	250 00	55 00						3446 31	[illegible]	71 20	[illegible]	1151 07		2477 12	[illegible]	1601 56	
Wellington	[illegible]	[illegible]	31	[illegible]	1	1	10	15	219	1		77	[illegible]	[illegible]	[illegible]	17	[illegible]	25	[illegible]	1	1	1	2		4			4	78234 00	[illegible]	1567 32	[illegible]	[illegible]	[illegible]	190 00	412 00						[illegible]	[illegible]	[illegible]	[illegible]	2320 04		[illegible]	[illegible]	1132 12	
Wentworth	100	[illegible]	44	4		1	[illegible]	7	200			[illegible]	74	[illegible]	[illegible]	12	[illegible]	90	[illegible]	1	1	1		1	4	11			74023 21	13323 73	[illegible]	3722 42	1181 12	1 25		231 22			112 00			[illegible]	[illegible]	[illegible]	[illegible]	3320 13		6210 45	[illegible]	[illegible]	
York	87	[illegible]	4	[illegible]		[illegible]	10	10	219			71	72	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]	1			1		3	2			4821 93	[illegible]	[illegible]	1235 [illegible]	[illegible]			300 00		150 00				[illegible]	[illegible]	[illegible]	[illegible]	2531 33		[illegible]	1711 00	[illegible]	[illegible]
Toronto	546	[illegible]	177	13	15	12	117	41	1303	1		[illegible]	[illegible]	[illegible]	307	[illegible]		[illegible]	[illegible]	1	4			11	3	5			209002 80	78211 74	[illegible]	[illegible]	[illegible]	[illegible]			10 00					[illegible]	7406 80	[illegible]	5299 06	11006 38		17201 39	[illegible]	8252 00	
Total	[illegible]	1857	1012	[illegible]	[illegible]	[illegible]	[illegible]	299	[illegible]	5	11	[illegible]	2924	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	40	90	152	293	178		2945201 71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11293 75	[illegible]	[illegible]	[illegible]	87 51	823 25	73101 07	[illegible]	[illegible]	[illegible]	[illegible]	85332 75	1600 00	[illegible]	[illegible]	[illegible]	

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Province of Onber, 1888.

Office for taking the foll

Damages for breach of contract or covenant.	Work and labor done.	Money received, paid, advanced or lent.	Goods sold and delivered.	EMARKS.
......	1	......	......	
......	1	......	......	
......	......	......	......	
......	1	1	......	
......	......	......	......	
......	......	......	......	
......	......	......	......	
......	......	......	......	

APPENDIX B.—Being a Return of Business transacted by Local Masters throughout the Province of Ontario, other than Toronto, during the year ending 31st December, 1888.

Counties and Districts.	Number of orders made for the following purposes: (1) For the administration of estates.	(2) For the partition or sale of property.	(3) Relative to infants under R.S.O. chap. 40, s. 76 (Examination only).	(4) Under the Winding-up Acts.	Other orders in Chambers.	Number of examinations taken as special examiners or of persons before trial.	Number of judgments or orders brought into the Master's office for taking the following accounts, etc.: Administration of estates.	Executors, trustees or committees' accounts and compensation.	Foreclosure of mortgage.	Redemption of mortgage.	Sale under mortgage or agreement.	Account on any charge on land, other than under Mechanics' Lien Act.	Account under Mechanics' Lien Act.	Specific performance.	Partnership accounts.	Alimony.	Partition or sale.	Passing [illegible] accounts.	Work [illegible]	Money received, paid [illegible]	Lands sold and [illegible]	[illegible]	On bonds, [illegible]	Intestate estate.	Quieting Titles matters.	Lunacy.	Miscellaneous.	Number of [illegible] appointments [illegible]	Number of [illegible] reports [illegible]	Number [illegible]	Number of bills of costs taxed by Master.	Amount realized [illegible]	Amount of costs of references, etc., taxed by Master [illegible]	Amount [illegible]	Amount [illegible] Local Master.	Remarks.
																																$	$	$	$	
Algoma													4						1						1										76 74	
Brant							4										3		1									1	1		6	11565 00	771 17	384 77	302 20	
Bruce		2			11	1	1		1			1	2		1		2						1		1			8	14		21	15190 00	1193 88	731 25	685 10	
Carleton	1	1			12	30	6	2	6		7		1	1	2		1		1	1			1					17	12	1	44	77181 76	2676 50	1011 [illegible]	2704 91	
Dufferin		1					1	1	1																		1				1		105 12		115 90	
Elgin		1			1	2	1	3	1		1					3										2	2	1	22		29	13130 00	2561 25	63 71	871 28	
Essex	1	1			10	18			1		1	2			1	1	2											1	5	1	9	22135 00	191 36	473 15	717 84	
Frontenac						2	1	1	5		7		1														1	9	23	6	12	20550 00	952 71	414 79	1020 78	
Grey	1	1					1				2				1													4	3	4	7	1705 25	1121 09	[illegible]	[illegible] 90	
Haldimand		1	1								1																	4	1		1	4000 00	17 19	292 50	110 00	
Halton	1	1				2	1		1		1																	1	1		4	15450 00	569 37	338 70	92 50	
Hastings	1	1			73	27	2		3		7			1			3		1				1	1	2		12	8	61	1	29	32315 00	3741 18	117 50	1865 90	
Huron	1	4	1		1	8	11			1	11	11					1	1			1							1	11	7	14	17815 00	1107 17	713 26	407 10	
Kent		4			7	10					2	1					4											4	9	1	17	28968 00	100 00	174 00	936 98	
Lambton				1					2				1															1	2	1		6231 00			132 27	
Lanark		1							1		1	1					1		1		1	1						1	1		4	2010 00	[illegible] 79	[illegible] 00	[illegible] 18	
Lennox and Addington		1				1			1		4	1			1		2											1	30	1	32	16860 00	2997 [illegible]	[illegible] 76	634 60	
Leeds and Grenville	1				1	1	1				4						1										1	1	11	7	8	17505 00	1616 32	775 00	366 63	
Lincoln		1				1	2		1								1									1		1	9		10	1830 00	657 65	612 47	831 85	
Middlesex		1		1		13	2		1		2						3								2		1		11	1	16	5149 00	1591 56	551 10	1310 [illegible]	
Muskoka and Parry Sound				1																								1							16 10	
Norfolk					5	1											1		1	1				1					3	1	3				324 15	
Northumberland and Durham					1		1	1			1	1			1		1								1			1	31	1	15	256 02		1502 45	1764 02	
Ontario	1	1			11	1		1			1	1			1		1	2								1	1	1	5	1	1	1060 00	523 56		476 83	
Oxford	11					11	1		1		1		1								1							5	11	8	1	12400 00	1324 00	583 10	290 70	
Peel						1					8		1			1					1							6	11	7	16	14016 00	1601 81	220 94	849 30	
Perth					10				1		1						1	2							2	1		1	11	15	20	21[illegible] 00	2234 01	778 49	477 61	
Peterborough					4				4		1				1						1							1	15	2	16	[illegible]255 00	1766 [illegible]	531 37	418 16	
Prescott and Russell	3	6			18									1														7	1	4	8	19936 29	625 81	373 75	371 54	
Prince Edward	8	1			20	1																						4	1	6	10	5741 91	1808 08	145 00	467 03	
Renfrew					11														1								1		2	1	9		306 85		200 30	
Simcoe					50	36	1							1			1	1		1				1				1	25	7	8	26312 00	4769 03	1668 75	870 00	
Stormont, Dundas and Glengarry	2	1			29	8	1				11									1	1							1	21	22	43	20755 80	3325 77	336 10	1109 88	
Thunder Bay																													1						113 75	
Victoria					24		1				1																		8		11	4800 00	3330 80	415 65	302 85	
Waterloo	3		1		30	4	5	2		7													1					1	4	16	7	8820 00	1100 72		279 00	
Welland	1				11		1		1									1	1									1	10	22	1	3[illegible]4 00	331 18	196 30	241 46	
Wellington	1	1			40	66	2			1	1				1					1						1		1	21	10	13	2[illegible]400 00	[illegible]	[illegible]018 74	1332 54	
Wentworth	1	4			73	1	8	1	4	7	7			1	2	1	1			1							1	17	12	25	27	[illegible]2000 00	2212 01	7994 30	1296 10	
Total	47	61	7	14	728	172	111	16	87	17	31[illegible]	2	13	5	11	1	9	7	8	6	6	1	4	7	1	[illegible]	[illegible]	117	285	2[illegible]6	[illegible]	[illegible] 40	54403 42	21071 72	24573 58	

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Total Amou such Judgment out Cost		Numbe Writs Execut issue again Good
Q. B. and C. P. Divs.	C	Q. B. and C. P. Divs.
$ c.		
376 18	...	.....
50268 37		35
27278 53		7
29810 80	7	49
9383 40		5
83522 47		18
7660 00		13
41054 27	1	34
5629 62	1	14
2446 97	1	3

APPENDIX C.—Being a Return of Business Transacted by Local Registrars, Deputy Registrars and Deputy Clerks of the Crown throughout the Province of Ontario during the year ending 31st December, 1888.

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* No return received.

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ttel Mortgages and
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APPENDIX D. Being a Return of Business transacted by County Court Clerks throughout the Province of Ontario, during the year ending 31st December, 1888.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$200 and [illegible]	$200 and over $100	$100 and [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Remarks
			$ c.									$	$	$ c.		$	$ c.	$ c.									$ c.	$	$	$ c.	$				$	$	$		$			$	
Algoma	[illegible]		[illegible]	1		11					11	[illegible]	472 77	[illegible]					12	1	1	[illegible]	7	6														[illegible]	11		[illegible]	[illegible]	
Brant	17	[illegible]	[illegible]	[illegible]	1	15	41	14	[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	14	4	2	27	[illegible]	[illegible]		1	192 00	[illegible]				[illegible]				[illegible]		[illegible]	[illegible]		10	[illegible]	
Bruce	[illegible]		[illegible]	11		3	41	17	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22	[illegible]	[illegible]	21	[illegible]	[illegible]	1				40 00	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			[illegible]	
Carleton	11		[illegible]			24	[illegible]	1			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17 31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21	[illegible]	51		10	[illegible]	[illegible]	[illegible]	192 22	[illegible]	[illegible]					[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	
Dufferin	4		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	1	[illegible]	[illegible]	257 80	[illegible]					6			12	24	[illegible]								[illegible]					[illegible]	[illegible]	[illegible]			[illegible]	
Elgin	101		[illegible]		1	1	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	171 62	140 07	[illegible]	[illegible]	[illegible]	[illegible]	21	[illegible]	[illegible]					[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	11		[illegible]	
Essex	78		[illegible]					1			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43	[illegible]	[illegible]								10					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
Frontenac	[illegible]		[illegible]	3		[illegible]	[illegible]	10		[illegible]	[illegible]	[illegible]	[illegible]	100 [illegible]	4	[illegible]	[illegible]	[illegible]	15	1	1	[illegible]	[illegible]	[illegible]		1	[illegible]	[illegible]			[illegible]	8				241 [illegible]	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]	
Grey	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]			5	1	1106 00	[illegible]	[illegible]	4	106 10	[illegible]	70 96		11	[illegible]	[illegible]	[illegible]	40								8					[illegible]	[illegible]	[illegible]	17	[illegible]	[illegible]	
Haldimand	30	1	[illegible]			2	1	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]					6			[illegible]	17	[illegible]								4						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Halton	30	1	[illegible]	[illegible]		[illegible]	1	[illegible]		[illegible]	11	[illegible]	[illegible]	[illegible]					11			11	30	[illegible]		[illegible]	[illegible]	[illegible]				[illegible]				[illegible]		[illegible]	11	[illegible]	[illegible]	[illegible]	
Hastings	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	2083 [illegible]	207 [illegible]	[illegible]	35	17	11		[illegible]	[illegible]								[illegible]				[illegible]	[illegible]	[illegible]	31	[illegible]		[illegible]	
Huron	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	11			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	61 [illegible]	[illegible]	2 10				64	117	112		[illegible]	1315 94	[illegible]				7		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Kent	[illegible]	1	[illegible]	[illegible]		11	[illegible]	11		[illegible]	[illegible]	[illegible]	[illegible]	35 08	[illegible]	[illegible]	[illegible]	130 [illegible]	6	2		67	40	[illegible]								1					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Lambton	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	113 35	[illegible]	1076 53	[illegible]	[illegible]	16	[illegible]	2	22	20	21			[illegible]	3 [illegible]	[illegible]	[illegible]		[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	12	[illegible]	
Lanark	[illegible]		[illegible]	[illegible]			31	11		1	1	[illegible]	181 [illegible]	46 [illegible]	1	[illegible]	[illegible]	22 [illegible]	11			11	28	31					[illegible]	[illegible]		1					[illegible]	[illegible]	14	11	12	[illegible]	
Leeds and Grenville	[illegible]		[illegible]	17	1		14	11			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				17	[illegible]	[illegible]		17	2563 66	111 [illegible]	[illegible]	[illegible]		1	1	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Lennox and Addington	[illegible]		[illegible]			[illegible]	[illegible]	1			[illegible]	[illegible]	[illegible]	121 [illegible]	[illegible]	[illegible]	237 [illegible]	1 03	16		2	[illegible]	27	21		[illegible]	[illegible]	[illegible]				[illegible]					177	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Lincoln	[illegible]		[illegible]	[illegible]		1	[illegible]				[illegible]	[illegible]	[illegible]	230 [illegible]	1	136 00	140 31	7 00	[illegible]	2	1	4	30	30					[illegible]	[illegible]							[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
Manitoulin																																					[illegible]	[illegible]				12 [illegible]	
Middlesex	151	[illegible]	[illegible]	21		73	[illegible]	40	[illegible]		204	[illegible]	1176 47	1363 00	4	1001 02	661 05	2 30	164	65	13	[illegible]	201	203	2							7					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2134 00	
Muskoka and Parry Sound	13		[illegible]		1				3		3	351 06	73 05	29 35					1	1	1	1		2								[illegible]										18 90	
	2		[illegible]				1					[illegible]	22 10	4 40					1	1		1	9	1													17	[illegible]	[illegible]		1	7 70	
Norfolk	25		[illegible]	[illegible]		1	[illegible]		3		16	[illegible]	161 51	58 21					5	10	[illegible]	[illegible]	10	20		1	15 00	3 50				[illegible]				[illegible]	210	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Northumberland and Durham	47	[illegible]	11423 00	[illegible]				[illegible]	4	4	[illegible]	[illegible]	[illegible]	157 18	1	27 00	[illegible]	[illegible]	21	4	1	[illegible]	77	67			[illegible]	[illegible]				9					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Ontario	[illegible]	2	11264 04	[illegible]		[illegible]			[illegible]		7	[illegible]	[illegible]	164 [illegible]	[illegible]	[illegible]	340 20	[illegible]	23	[illegible]	[illegible]	9	21	[illegible]	2							12					[illegible]	[illegible]			[illegible]	[illegible] 16	
Oxford	4		10170 35	[illegible]	2	23	46		11	1	[illegible]	[illegible]	[illegible]	101 87	[illegible]	400 00	336 [illegible]	[illegible]	1	[illegible]	1	17	12	1					[illegible]	[illegible]		11		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	
Peel	20		[illegible]	21		1	[illegible]		1			2600 15	[illegible]	222 26					10	3	2	7	15	12		10	[illegible]	[illegible]	200 00	[illegible]		[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	317 10	
Perth	60		14300 33	[illegible]		17	44		[illegible]	2	[illegible]	10060 17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	16	12	16	37	30	1	5	1252 46	[illegible]									71	[illegible]	[illegible]		1	[illegible]	
Peterborough	53		[illegible]	30		4	19		1	1	[illegible]	[illegible]	333 11	101 35	2	101 [illegible]	[illegible]	[illegible]	15	3	3	10	30	28													[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Prescott and Russell	11		[illegible]	24			[illegible]				[illegible]	[illegible]	409 02	141 25						[illegible]		10	19	19								[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
Prince Edward	21		6350 00	[illegible]		[illegible]	[illegible]		[illegible]		1	[illegible]	446 00	[illegible]	[illegible]	[illegible]	300 00	[illegible]	10	5	1	16	[illegible]	25					131 77	[illegible]		[illegible]				42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Rainy River			[illegible]	[illegible]							[illegible]	[illegible]	[illegible]	[illegible]					2																		[illegible]	[illegible]				7 [illegible]	
Renfrew	[illegible]		[illegible]	[illegible]		[illegible]					[illegible]	[illegible]	[illegible]	[illegible]					16	7		4	30	17					76 34	[illegible]	50 00						[illegible]	[illegible]		1	[illegible]	[illegible]	
Simcoe	145		[illegible]	19		[illegible]			21	[illegible]	[illegible]	[illegible]	[illegible]		11	[illegible]	[illegible]		64	42	[illegible]	47	[illegible]	104		[illegible]	[illegible]	112 [illegible]				12					[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	
Stormont, Dundas and Glengarry	[illegible]		[illegible]	1		23	40		[illegible]	2	130	[illegible]	[illegible]	[illegible]	6	[illegible]	700 [illegible]	[illegible]	[illegible]	[illegible]	9	30	135	104		11	3347 21	[illegible]				[illegible]					[illegible]	[illegible]	61		[illegible]	[illegible]	
Thunder Bay			[illegible]			14	[illegible]		10	[illegible]	40	31100 61	[illegible]	251 66	12	[illegible]	1378 94	[illegible]	34	6	12	2	[illegible]	44		[illegible]	[illegible]	30 62				10					47	[illegible]	11	[illegible]	[illegible]	840 [illegible]	
Victoria	23		[illegible]	[illegible]					[illegible]	[illegible]	12	3030 16	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	17	45	46								8					341	[illegible]	131	[illegible]	[illegible]	[illegible]	
Waterloo	[illegible]		[illegible]	43		4			[illegible]		1	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]	[illegible] 16	30	[illegible]	[illegible]	13	[illegible]	[illegible]		13	[illegible]	[illegible]				9	11	[illegible] 70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Welland	[illegible]	2	[illegible]	[illegible]		1	[illegible]				13	[illegible]	[illegible]	[illegible]					[illegible]	2	1	7	30	19					225 00	300 00	[illegible]	16		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	
Wellington	[illegible]		[illegible]			15	[illegible]		9	3	40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	2	[illegible]	[illegible]	[illegible]								12	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	18	[illegible]	[illegible]	
Wentworth	[illegible]	2	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	2045 11	[illegible]	[illegible]	1250 [illegible]	[illegible]	[illegible]	[illegible]	37	7	36	166	130	1				173 00	[illegible]	[illegible]	34					[illegible]	[illegible] 17	[illegible]	22	[illegible]	[illegible]	
York	1135	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	60	[illegible]	[illegible]	[illegible]	[illegible]	140	[illegible]	100	500	439	[illegible]	6	1334 76	[illegible]	[illegible]	[illegible]	[illegible]	60			[illegible]	[illegible]	1410	[illegible]	373	[illegible]	173	[illegible]	
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	176	[illegible]	[illegible]	[illegible]	11405 36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	212	241	[illegible]	[illegible]	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	144	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

APPENDIX E.—Being a Return of business transacted by Surrogate Registrars

COUNTIES OR DISTRICTS.	Number of Wills proved and Letters of Administration or Guardianship issued where personalty valued as follows:								
	Above $100,000.	From $50,000 to $100,000.	From $25,000 to $50,000.	From $10,000 to $25,000.	From $5,000 to $10,000.	From $1,000 to $5,000.	From $500 to $1,000.	From $200 to $500.	$200 and under.
Algoma	....	.....	.....	.....	.....	.....	2	1	1
Brant	1	1	2	3	1	31	12	8	15
Bruce	.....	.....	.....	.....	2	3	14	13	16
Carleton	.....	.....	5	9	8	29	34	15	14
Dufferin	.....	.....	.....	....	1	10	9	4	4
Elgin	.....	.....	.....	4	7	37	16	11	23
Essex	.....	.....	.....	.....	5	37	18	17	17
Frontenac	.....	1	1	3	6	23	19	6	21
Grey	.....	.....	.....	1	3	46	23	17	15
Haldimand	.....	.....	.....	1	3	14	22	20	9
Halton	.....	.....	1	1	3	19	6	7	6
Hastings	.....	.....	.....	5	33	21	16	8	3
Huron	.....	.....	2	1	9	71	32	19	14
Kent	....	.....	.....	3	2	31	16	10	24
Lambton	.....	.....	2	.....	3	31	23	11	7
Lanark	2	.....	.....	2	6	23	14	10	9
Leeds and Grenville	.....	.....	.....	2	8	38	15	17	17
Lennox and Addington	.....	1	.....	.....	2	11	6	8	5
Lincoln	.....	.....	.....	1	9	30	17	14	9
Manitoulin	.....	.....	.....	.....	.....	.....	.....	1	.....
Middlesex	.....	2	.....	4	20	76	49	35	37
Muskoka and	....	.....	.....	.....	.....	2	1	1	1
Parry Sound	.....	.....	.....	.....	.....	.....	.....	.....	.....
Norfolk	.....	.....	.....	3	7	14	15	14	3
Northumberland and Durham	.....	.....	.....	3	10	51	25	23	22
Ontario	.....	.....	1	3	5	38	18	21	9
Oxford	.....	1	1	5	7	52	27	20	16

throughout the Province of Ontario during the year ending December, 1888.

Number of Probates issued.	Number of Letters of Administration issued.	Number of Letters of Guardianship issued.	Number of Probates and Letters issued under Section 64, Cap. 46, R.S.O., and included in above.	Total amount of personalty devolving.	Total amount of realty to be administered.	Amount of Fees collected by Surrogate Registrar for—			
						Registrar's Fees.	Fee Fund.	Judge's Fees.	Total.
				$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
3	3	1	1	2415 00	....	43 30	12 00	18 50	73 80
44	26	4	3	358169 87	253152 00	709 75	312 50	501 00	1523 25
48	27	1	8	96176 00	21151 00	661 28	166 00	649 50	1476 78
64	50	......	6	474410 73	47910 00	1072 90	452 50	586 50	2111 90
13	14	1	2	30191 06	12800 00	237 76	62 00	88 00	387 76
54	41	3	6	199619 86	233995 00	693 00	267 50	353 50	1314 00
51	45	4	6	128305 75	114616 48	875 30	223 00	501 00	1599 30
44	33	3	6	251212 13	199800 00	720 63	288 00	551 70	1560 33
65	37	3	6	161080 81	13400 00	834 20	252 00	353 00	1439 20
47	22	......	2	101171 00	....	685 00	168 50	255 70	1109 20
34	12	2	5	176879 32	38692 00	496 90	178 20	284 20	959 30
61	25	4	4	164918 00	13038 00	808 45	242 00	352 80	1403 25
99	46	4	5	349195 93	45625 00	1329 60	427 50	1027 00	2784 10
48	38	9	3	239180 44	97061 00	600 44	553 40	455 00	1608 84
50	25	......	3	134 00	155870 00	552 85	231 00	303 00	1086 85
52	14	2	2	913643 89	469525 00	642 17	583 50	1000 00	2225 67
64	33	4	4	224143 47	47560 00	918 59	300 00	413 50	1632 09
24	8	1	2	121424 13	2400 00	324 10	439 90	313 40	1077 40
51	36	2	4	162192 92	22200 00	787 09	237 50	385 70	1410 29
1	......	......	....	250 00	....	15 01	....	2 50	17 51
141	77	5	16	486224 05	60978 00	1677 60	603 50	998 50	3279 60
2	3	......	1	3158 00	3155 00	34 51	10 00	14 50	59 01
......	......	......	....	....	....	....	....	....	....
39	14	3	7	140352 76	10676 00	559 92	166 00	273 00	998 92
82	49	3	5	264525 74	67210 00	1093 36	374 10	485 50	1952 96
62	26	7	2	217471 94	20160 00	924 40	265 00	497 10	1686 50
79	45	5	4	291867 68	60505 00	1211 00	366 50	615 00	2192 50

APPENDIX E.—Being a Return of business transacted by Surrogate Registrars

COUNTIES OR DISTRICTS.	Number of Wills proved and Letters of Administration or Guardianship issued where personalty valued as follows:								
	Above $100,000.	From $50,000 to $100,000.	From $25,000 to $50,000.	From $10,000 to $25,000.	From $5,000 to $10,000.	From $1,000 to $5,000.	From $500 to $1,000.	From $200 to $500.	$200 and under.
Peel	......	......	......	5	6	29	10	6	5
Perth	......	1	......	2	7	39	23	14	12
Peterboro'	......	......	......	......	4	22	11	5	11
Prescott and Russell	1	......	......	......	3	9	3	9	2
Prince Edward	......	......	1	3	1	15	11	3	7
Renfrew	......	......	......	......	......	13	6	2	4
Simcoe	1	......	......	3	8	54	31	20	21
Stormont, Dundas and Glengarry	......	2	......	2	5	25	16	6	9
Thunder Bay	......	......	1	......	......	1	1	3	2
Victoria	......	......	1	2	1	21	3	9	2
Waterloo	1	......	1	6	14	44	21	19	17
Welland	1	......	......	2	5	25	11	14	9
Wellington	......	1	......	2	8	57	36	28	16
Wentworth	......	1	3	5	9	43	30	20	36
York	3	6	10	23	36	150	68	61	96
Total	10	17	32	109	267	1312	729	550	566

throughout the Province of Ontario, etc.—*Continued.*

Number of Probates issued.	Number of Letters of Administration issued.	Number of Letters of Guardianship issued.	Number of Probates and Letters issued under Section 64, Cap. 46, R.S.O., and included in above.	Total amount of personalty devolving.	Total amount of realty to be administered.	Amount of Fees collected by Surrogate Registrar for—			
						Registrar's Fees.	Fee Fund.	Judge's Fees.	Total.
				$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
38	16	6	4	259007 53	93697 00	615 79	222 50	397 50	1235 79
71	25	2	2	269074 29	31800 00	897 35	305 00	567 60	1769 95
37	14	2	5	84588 46	39170 00	407 56	128 00	167 50	703 06
13	14	......	2	648321 22	....	214 75	383 00	709 50	1307 25
27	14	......	2	159328 00	10825 00	401 00	148 00	233 00	782 00
10	15	......	4	25636 17	46550 00	178 19	127 00	72 60	377 79
90	45	2	7	892664 90	64475 00	1192 20	....	1122 70	2314 90
33	30	2	9	810 00	5800 00	535 60	....	342 50	878 10
3	5	......	2	30353 01	50 00	55 44	25 00	42 50	122 94
21	18	......	2	121417 27	4562 00	282 75	126 00	181 50	590 25
92	27	4	4	550891 07	51915 00	1120 34	485 00	753 00	2358 34
36	25	6	67	372714 91	344305 00	826 28	327 50	606 60	1760 38
102	43	3	3	276507 00	53520 00	1360 59	....	572 00	1932 59
83	62	13	15	415384 91	106840 00	1313 90	487 50	758 80	2560 20
258	170	20	27	2515189 00	150065 00	3975 42	1845 50	2344 60	8165 52
2236	1272	131	258	12180202 22	3015053 48	31886 27	11792 10	20151 00	63829 37

ce31st (posed, collected and

FOR BREACHES OF THE CAN. TEMP. ACT.

ELATI N		L AMOUNT OF FINES IMPOSED, COLLECTED AND APPROPRIATED, (INCLUDING COLLECTIONS ON RETURNS FOR 1887), AS FOLLOWS, TO						
mss.	action of cheese and	unts not collected, where persons ished in default.	ectors.	unts for which pers committed in default.	unt of fines appealed against.	unts unpaid, and punished.	e hands of Police gistrates.	amount of fines der Canada Temperance Act.

APPENDIX F.—Summary of Convictions and Orders returned by Her Majesty's Justices of the Peace throughout the Province of Ontario, during the year ending the 31st day of December, 1888, together with the amount of Fines, etc., imposed, collected and appropriated and the number of persons imprisoned thereunder.

COUNTIES AND DISTRICT	Assault
[illegible]	13
[illegible]	53
[illegible]	48
[illegible]	27
[illegible]	6
[illegible]	3
[illegible]	30
[illegible]	11
[illegible]	2
[illegible]	9
Hal	17
Hastings	83
Huron	31
Kent	10
Lambto	10
anark	16
eeds and Grenville	19
ennox and Addington	14
ncoln	9
anitoulin	1
iddlesex	42
uskoka and Parry Sound	2
pissing	3
rfolk	22
rthumberland and Durham	22
tario	28
ford	69
el	7
rth	19
erboro	6
escott and Russell	72
ince Edward	7
nfrew	11
ncoe	60
rmont, Dundas and Glengarry	16
under Bay	4
ctoria	53
aterloo	51
lland	10
llington	33
ntworth	31
rk	48
Grand Totals	1007

Grand Totals (convictions): 1007 30 1 53 315 12 46 254 2611 68 12 547 2282 18 106 809 535 18 4 11 22 118 1169 23 3 1 39 [illegible]

* $120 for Sudbury Gaol and Court House

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..	00	...	20
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..	..	...	57
	50	00	208

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APPENDIX G.—Summary of Convictions returned by Police Magistrates throughout the Province of Ontario during the year ending the 30th day of November, 1888, together with the amount of Fines, etc., imposed, collected and appropriated, and the number of persons imprisoned thereunder

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* These convictions also entered in Appendix F. † Part of these convictions also entered in Appendix F. ‡ For Sudbury lockup.

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the different
year ending 31st

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount Earned.	Salary paid by the Government.
				$ c.	$ c.
Algoma	Sault St. Marie.	Sheriff	W. H. Carney.......	2189 59	1400 00
		Surrogate Judge	Judge McCrea	18 50	....
		Local Master	"	76 74	....
		County Attorney	J. J. Kehoe	67 00	400 00
		Clerk of the Peace	"	304 70	400 00
		Local Registrar..........	T. A. P. Towers.....	39 00	150 00
		District Court Clerk	"	172 49	800 00
		Surrogate Registrar......	"	43 30	....
Brant	Brantford	Sheriff	W. J. Scarfe	2835 76	....
		Surrogate Judge	Judge Jones.........	Commuted at	
		Local Master............	"	Commuted at	
		County Attorney	G.R.VanNorman,Q.C	886 35	....
		Clerk of the Peace.......	" ..	1093 77	....
		Local Registrar..........	W. B. Rubidge......	630 90	675 00
		County Court Clerk	"	881 38	....
		Surrogate Registrar......	"	709 75	....
Bruce	Walkerton	Sheriff	W. Sutton	5130 10	....
		Surrogate Judge.........	Judge Kingsmill.....	Commuted at	
		Local Master............	W. A. McLean	686 10	....
		Deputy Registrar........	"	204 50	... .
		County Attorney	Thos. Dixon.........	1360 80	....
		Clerk of the Peace..... .	"	2075 30	....
		Deputy Clerk of the Crown	Wm. Gunn..........	202 70	450 00
		County Court Clerk......	"	1126 10	....
		Surrogate Registrar	"	661 28	....
Carleton	Ottawa...... ..	Sheriff	John Sweetland	5998 35	....
		Surrogate Judge.........	Judge Ross..........	Commuted at	
		Local Master............	W. M. Matheson ...	2704 94	....
		Deputy Registrar........	"	622 74	....
		County Attorney	Robert Lees, Q.C....	764 90	....

County Judicial Officers in the Province of Ontario, earned and received during the December, 1888.

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total Receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	Remarks.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
....	3589 59	1648 32	913 90	....	3962 22	1223 70	2738 52	2365 89	
18 50	....	18 50	....	18 50	....	....	18 50	....	
76 74	95 24	31 04	....	31 04	49 54	10	30 44	95 14	
467 00	....	457 00	18 00	475 00	....	....	475 00	....	
704 70	1171 70	642 70	79 15	721 85	1196 85	15 00	706 85	1156 70	
189 00	....	161 00	....	161 00	....	5 00	156 00	....	
972 49	... .	965 04	....	965 04	....	10 00	955 04	....	
43 30	1204 79	29 85	....	29 85	1155 89	2 00	27 85	1187 79	
....	2835 76	2475 24	45 84	....	2521 08	1200 00	1321 08	1635 76	
....	....	428 00	....	428 00	....	....	428 90	....	
....	....	577 00	....	577 00	1905 09	25 00	552 00	980 00	
886 35	....	886 35	....	886 35	....	....	886 35	....	
1093 77	1980 12	1093 77	....	1093 77	1980 12	....	1093 77	1980 12	
1305 90	....	1304 90	....	1304 90	....	179 25	1125 65	....	
881 38	....	870 13	....	870 13	....	107 25	762 88	....	
709 75	2897 03	708 00	....	708 00	2883 03	120 00	608 00	2490 53	
....	5130 10	3988 63	500 75	....	4489 38	1370 39	3118 99	3759 71	
....	408 00	408 00	....	....	408 00	....	....	408 00	
686 10	....	522 67	339 00	861 67	....	5 00	855 67	....	
204 50	890 60	....	....	....	861 67	5 00	199 50	880 60	
1360 80	....	1114 00	554 95	1668 95	....	90 85	1578 10	....	
2075 30	3436 10	1737 36	609 55	2346 91	4015 86	150 57	2196 34	3194 68	
652 70	....	652 70	....	652 70	....	....	652 70	....	
1126 10	....	905 00	260 00	1165 00	....	530 86	634 14	....	
661 28	2440 08	561 28	53 00	614 28	2431 98	265 43	348 85	1643 79	
....	5998 35	5841 94	748 04	....	6589 98	2996 42	3593 56	3001 93	
... .	500 00	500 00	....	....	500 00	....	....	500 00	
2704 94	.....	2684 64	12 70	2697 34	....	83 32	2614 02	....	
622 74	3327 68	620 74	5 10	625 84	3323 18	49 10	576 74	3195 26	
764 90	....	532 30	328 30	860 60	....	26 70	833 90	....	

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount Earned.	Salary paid by the Govern-ment.
				$ c.	$ c.
Carleton—*Con*	Ottawa	Clerk of the Peace	Robt. Lees, Q.C	1021 50	....
		Deputy Clerk of the Crown	J. P. Featherston	606 38	450 00
		County Court Clerk	“	1191 62	....
		Surrogate Registrar	“	1072 90	....
Dufferin	Orangeville	Sheriff	Thos. Bowles	2532 52	....
		Surrogate Judge	Judge McCarthy	Commuted at	
		Local Master	“	115 90	....
		County Attorney	J. P. McMillan	69 49	....
		Clerk of the Peace	“	625 76	....
		Local Registrar	John McLaren	142 90	675 00
		County Court Clerk	“	321 20	....
		Surrogate Registrar	“	237 76	....
Elgin	St. Thomas	Sheriff	Dugald Brown	4612 53	....
		Surrogate Judge	Judge Hughes	353 50	....
		Local Master	Robert Miller	871 28	....
		County Attorney	D. J. Donahue	1226 90	....
		Clerk of the Peace	“	1117 99	....
		Local Registrar	D. McLaws	673 60	675 00
		County Court Clerk	“	964 43	....
		Surrogate Registrar	“	693 00	....
Essex	Sandwich	Sheriff	J. C. Iler	4320 00	....
		Surrogate Judge	Judge Horne	501 00	....
		Local Master	S. S. Macdonell, Q.C.	515 84	....
		Deputy Registrar	“	313 27	....
		County Attorney	“	481 69	....
		Clerk of the Peace	“	924 75	....
		Deputy Clerk of the Crown	F. E. Marcon	523 90	450 00
		County County Clerk	“	706 45	....
		Surrogate Registrar	“	875 30	....
Frontenac	Kingston	Sheriff	Wm. Ferguson	1835 97	....

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1021 50	1786 40	845 94	....	845 94	1706 74	12 00	833 94	1747 70	
1056 38	....	967 88	160 45	1128 33	....	318 00	810 33	....	
1191 62	....	1083 62	59 63	1143 25	....	159 00	984 25	....	
1072 90	3320 90	1023 55	76 30	1099 85	3371 43	477 00	622 85	2366 90	
....	2532 52	1931 89	543 49	....	2475 38	762 25	1713 13	1770 27	
168 00	....	168 08	....	168 00	....	....	168 00	....	
115 90	283 90	13 80	12 60	26 40	194 40	3 25	23 15	280 65	
69 49	....	67 49	15 00	82 49	....	50 00	32 49	....	
625 76	695 25	355 42	355 04	710 46	792 95	100 00	610 46	545 25	
817 90	....	812 30	....	812 30	....	13 75	798 55	....	
321 20	....	302 50	21 65	324 15	....	16 50	307 65	....	
237 76	1376 86	237 76	....	237 76	1374 21	22 80	214 96	1323 81	
.. ..	4612 53	3570 86	779 75	....	4350 61	1861 40	2489 21	2751 13	
....	353 50	353 50	.... ..	....	353 50	....	353 50	353 50	
....	871 28	657 52	168 10	... .. .	825 62	60 00	765 62	811 28	
1226 90	.... ..	932 20	493 93	1426 13	....	84 81	1341 32	....	
1117 99	2344 89	691 98	518 37	1210 35	2636 48	74 25	1136 10	2185 83	
1348 60	....	1290 68	15 00	1305 68	....	64 45	1241 23	....	
964 43	....	930 95	20 00	950 95	....	64 45	886 50	....	
693 00	3006 03	660 60	19 50	680 10	2936 73	170 00	510 10	2707 13	
....	4320 00	3820 00	500 00	....	4320 00	2000 00	2320 00	2320 00	
....	501 00	501 00	....	501 00	....	....	501 00	501 00	
515 84	.. ..	324 94	....	324 94	....	10 50	314 94	....	
313 27	....	313 27	....	313 27	....	10 50	302 07	....	
481 69	....	435 07	128 00	563 07	....	8 67	554 40	....	
924 75	2235 55	924 75	....	924 75	2126 03	....	924 75	2205 88	
973 90	....	973 90	....	973 90	....	90 00	883 90	....	
706 45	....	706 45	....	706 45	....	....	706 45	....	
875 30	2555 65	875 30	....	875 30	2555 65	.. ..	875 30	2465 65	
....	1835 97	1835 97	....	....	1835 97	395 74	1440 23	1440 23	

APPENDIX H.—Schedule shewing return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount earned.	Salary paid by the Government.
				$ c.	$ c.
Frontenac—*Con*...	Kingston	Surrogate Judge.........	Judge Price	commuted at	
		Local Master	J. A. Henderson, Q.C.	1020 78	....
		Deputy Registrar........	"	294 98	....
		County Attorney	B. M. Britton, Q.C ..	374 15	....
		Clerk of the Peace	" ..	1125 80	....
		Deputy Clerk of the Crown	John Fraser.........	129 46	450 00
		County Court Clerk	"	606 12	....
		Surrogate Registrar......	"	720 63	. ...
Grey....	Owen Sound....	Sheriff	C. H. Moore	4444 62	....
		Surrogate Judge.........	Judge McPherson ...	353 00	....
		Local Master	Alfred Frost..... ...	206 80	....
		County Attorney	"	384 36	....
		Clerk of the Peace	Wm. Armstrong.....	1735 57	....
		Local Registrar..........	George Inglis........	169 55	750 00
		County Court Clerk......	"	787 00	....
		Surrogate Registrar......	"	834 20	... .
Haldimand	Cayuga	Sheriff	R. H. Davis.........	1984 78	100 00
		Surrogate Judge...	Judge Upper	255 70	....
		Local Master	"	110 00	....
		County Attorney	J. R. Martin	439 15	....
		Clerk of the Peace	"	1124 77	....
		Local Registrar..........	Jas. Mitchell	96 00	600 00
		County Court Clerk......	"	236 45	....
		Surrogate Registrar......	"	685 00	....
Halton	Milton	Sheriff	M. Clements	1777 14	....
		Surrogate Judge.........	Judge Miller	commuted at	
		Local Master	"	92 50	....
		County Attorney	T. G. Matheson	358 00	....
		Clerk of the Peace	"	999 72	....
		Local Registrar..........	W. L. P. Eager.....	28 80	600 00

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
....	752 00	752 00	....	....	752 00	....	752 00	752 00	
1020 78	....	819 13	426 10	1245 23	. .....	85 50	1159 73	....	
294 98	1315 76	228 68	156 38	385 06	1630 29	82 50	302 56	1247 76	
374 15	....	226 65	48 00	274 65	....	111 50	163 15	....	
1125 80	1499 95	680 80	461 25	1142 05	1416 70	121 30	1020 75	1267 15	
579 46	....	565 12	....	565 12	....	180 00	385 12	....	
606 12	....	511 85	112 10	623 95	....	180 00	443 95	....	
720 63	1906 21	630 40	88 99	719 39	1908 46	180 00	539 39	1366 21	
....	4444 62	3843 49	848 14	....	4691 65	1925 18	2766 47	2519 44	
....	353 00	353 00	....	....	353 00	....	....	353 00	
206 80	....	98 70	36 45	135 15	....	....	135 15	....	
384 36	591 16	305 56	194 20	499 76	634 91	25 00	609 91	566 16	
....	1735 57	1084 47	651 10	....	1735 57	....	1735 57	1735 57	
919 55	....	892 80	26 75	919 55	....	25 84	893 71	....	
787 00	....	787 00	....	787 00	....	26 70	760 30	....	
834 20	2540 75	666 90	54 75	721 65	2428 20	152 30	569 35	2335 91	
....	2084 78	1680 81	238 07	....	1918 88	468 12	1450 76	1616 66	
255 70	....	... .	....	255 70	....	....	....	....	
110 00	365 70	31 70	23 10	54 80	310 50	20 00	34 80	345 70	
439 15	....	368 57	202 56	571 13	....	25 00	546 13	....	
1124 77	1563 92	665 66	515 24	1180 90	1752 03	250 00	930 90	1288 92	
696 00	....	696 00	....	696 00	... .	15 00	681 00	....	
236 45	....	236 45	....	236 45	....	10 00	226 45	....	
685 00	1617 45	685 00	....	685 00	1617 45	85 00	600 00	1507 45	
....	1777 14	1506 31	14 91	....	1521 22	502 25	1018 97	1274 89	
417 00	....	....	....	417 00	....	....	417 00	....	
92 50	509 50	92 50	....	92 50	509 50	10 00	82 50	499 50	
358 00	....	235 55	....	235 55	....	....	235 55	....	From 5th February.
999 72	1357 72	555 23	....	555 23	790 78	11 12	544 11	1346 60	From 5th February.
628 80	....	628 80	....	628 80	....	140 00	488 80	....	

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount Earned.	Salary paid by the Government.
				$ c.	$ c.
Halton—*Con.*	Milton	County Court Clerk	W. L. P. Eager	401 05	....
		Surrogate Registrar	"	496 90	....
Hastings	Belleville	Sheriff	Wm. Hope	4805 54	....
		Surrogate Judge	Judge Lazier	352 80	....
		Local Master	S. S. Lazier	1868 90	....
		Deputy Registrar	"	587 30	....
		County Attorney	G.E. Henderson, Q.C.	681 80	....
		Clerk of the Peace	"	1827 19	....
		Deputy Clerk of the Crown	A. G. Northrup	515 55	450 00
		County Court Clerk	"	1512 91	....
		Surrogate Registrar	"	808 45	....
Huron	Goderich	Sheriff	R. Gibbons	4422 62	....
		Surrogate Judge	Judge Toms	1000 00	....
		Local Master and Deputy Registrar	H. McDermott and S. Malcomson.	commuted at	
		County Attorney	Ira Lewis	1123 40	....
		Clerk of the Peace	"	1521 75	....
		Deputy Clerk of the Crown	D. McDonald	594 30	500 00
		County Court Clerk	"	1249 65	....
		Surrogate Registrar	"	1329 60	....
Kent	Chatham	Sheriff	John Mercer	4133 12	....
		Surrogate Judge	Judge Bell	455 00	....
		Local Master	R. O'Hara	926 95	....
		Deputy Registrar	"	490 50	....
		County Attorney	Wm. Douglas, Q. C.	2100 00	....
		Clerk of the Peace	"	1300 00	....
		Deputy Clerk of the Crown	W. A. Campbell	98 00	450 00
		County Court Clerk	"	659 20	....
		Surrogate Registrar	"	600 40	....
Lambton	Sarnia	Sheriff	Jas. Flintoft	3342 17	....

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
401 05	....	401 05	....	401 05	....	140 00	261 05	....	
496 90	1526 75	496 90	....	496 90	1526 75	140 00	356 90	1106 75	
....	4805 54	3837 75	400 80	....	4238 55	1759 66	2478 89	3045 88	
....	352 80	352 80	....	....	352 80	....	....	352 80	Salary from 1st April.
1868 90	....	1628 80	90 16	1718 96	....	300 00	1418 96	....	Salary from 1st November.
587 30	2456 20	568 90	22 50	591 40	2310 00	200 00	391 40	1956 20	Salary from 1st November.
681 80	....	681 80	....	681 80	....	100 00	581 80	....	
1827 19	2508 99	1827 19	....	1827 19	2508 99	400 00	1427 19	2008 99	
965 55	.. ....	965 55	....	965 55	....	30 00	935 55	....	
1512 91	. .....	1300 00	....	1300 00	....	220 00	1080 00	....	
808 45	3286 91	760 00	....	760 00	3025 55	220 00	540 00	2816 91	
....	4422 62	3722 00	507 61	....	4229 61	1968 37	2261 24	2504 25	
....	1000 00	1000 00	....	....	1000 00	....	1000 00	1000 00	
....	2500 00	2500 00	....	.. . ...	2500 00	....	....	2500 00	
1123 40	....	778 20	149 90	928 10	....	80 00	848 00	....	
1521 75	2645 15	1409 60	65 70	1475 30	2403 40	640 00	835 30	1925 15	
1094 30	....	1094 30	....	1094 30	....	200 00	894 30	....	
1249 65	....	1249 65	.... ..	1249 65	....	143 80	1105 85	....	
1329 60	3673 55	1329 60	....	1329 60	8673 55	300 00	1029 60	3029 75	
....	4133 12	2944 25	1313 20	....	4257 45	1898 13	2359 32	2234 99	
....	455 00	455 00	....	....	455 00	....	455 00	455 00	
926 95	....	926 95	....	926 95	....	....	926 95	....	
490 50	1417 45	490 50	....	490 50	1417 45	10 00	480 50	1407 45	Salary from 1st April.
2100 00	....	1750 00	320 00	2070 00	....	500 00	1570 00	....	
1300 00	3400 00	1270 00	350 00	1620 00	3690 00	300 00	1320 00	2600 00	
548 00	....	548 00	....	548 00	....	6 50	541 50	....	
659 20	....	659 20	....	659 20	....	400 00	259 20	....	
600 40	1807 60	600 40	....	600 40	1897 60	20 00	580 40	1381 10	
....	3342 17	2108 85	567 67	....	2676 52	1293 80	1382 72	2048 37	

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount earned.	Salary paid by the Government.
				$ c.	$ c.
Lambton—*Con.*	Sarnia	Surrogate Judge	Judge Robinson	303 00	......
		Local Master	"	132 22	....
		County Attorney	J. P. Bucke	1121 15	....
		Clerk of the Peace	"	1458 65	....
		Local Registrar	W. R. Gemmill	344 10	675 00
		County Court Clerk	"	541 79	....
		Surrogate Registrar	"	552 85	....
Lanark	Perth	Sheriff	Jas. Thompson	1743 33	......
		Surrogate Judge	Judge Senkler	1000 00	....
		Local Master	"	233 10	....
		County Attorney	E. G. Malloch	1013 63	......
		Clerk of the Peace	"	562 93	....
		Local Registrar	Charles Rice	206 75	675 00
		County Court Clerk	"	404 00	....
		Surrogate Registrar	"	642 17	....
Leeds & Grenville.	Brockville	Sheriff	James Smart	4028 02	....
		Surrogate Registrar	Judge Macdonald	commuted at	
		Local Master	J. D. Buell	366 63	....
		Deputy Registrar	"	174 50	....
		County Attorney	"	542 56	....
		Clerk of the Peace	"	810 90	....
		Deputy Clerk of the Crown	S. Reynolds	235 64	500 00
		County Court Clerk	"	754 08	......
		Surrogate Registrar	"	918 59	......
Lennox and Addington	Napanee	Sheriff	O. T. Pruyn	2742 92	....
		Surrogate Judge	Judge Wilkinson	commuted at	
		Local Master	S. S. Lazier	684 60	....
		County Attorney	A. L. Morden	95 00	....
		Clerk of the Peace	"	615 00	....
		Local Registrar	W. P. Deroche	262 90	600 00

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous year.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	Remarks.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
303 00	....	303 00	....	303 50	....	....	322 50	....	
132 22	435 22	132 22	....	132 22	435 22	....	132 22	435 22	
1121 15	....	928 74	245 00	1173 74	....	6 16	1167 58	....	
1458 65	2579 80	1288 15	349 15	1537 30	2711 04	35 55	1501 75	2538 09	
1019 10	....	1019 10	......	1019 10	....	10 00	1010 10	....	
541 79	....	541 79	....	541 79	....	15 00	526 79	....	
552 85	2113 74	552 85	....	552 85	2113 74	10 00	542 85	2078 74	
....	1743 33	1211 52	500 72	....	1712 24	500 95	1211 29	1242 38	
1000 00	....	1000 00	....	1000 00	....	....	1000 00	....	
233 10	1233 10	195 88	192 17	388 05	1348 90	....	388 05	1233 10	
1013 63	....	619 56	155 81	775 37	....	90 63	684 74	....	
562 93	1576 56	306 10	267 43	573 53	1348 90	40 00	533 53	1445 93	
881 75	....	821 55	92 00	913 55	....	10 40	903 15	....	
404 00	....	277 30	129 87	407 17	....	8 30	398 87	....	
642 17	1927 92	518 77	73 15	591 92	1912 64	18 20	573 72	1891 02	
....	4028 02	3227 47	664 06	....	3891 53	1114 85	2776 68	2913 17	
....	480 00	480 00	....	....	480 00	....	....	480 00	
366 63	....	85 50	237 46	322 96	....	5 00	317 96	....	
174 50	....	104 70	19 00	123 70	....	....	123 70	....	
542 56	....	318 80	51 80	370 60	....	....	370 60	....	
810 90	1894 59	491 65	272 74	764 39	1581 65	92 05	672 34	1797 54	
735 64	....	735 64	....	735 64	....	7 50	728 14	....	
754 08	....	754 08	....	754 08	....	12 50	741 58	....	
918 59	2408 31	918 59	....	918 59	2408 31	49 60	869 59	2339 31	
....	2742 92	1936 41	723 84	....	2660 25	1444 37	1215 88	1298 55	
....	400 00	....	....	....	400 00	....	....	400 00	
....	684 60	597 00	117 00	714 00	....	75 00	639 00	609 60	
95 00	....	16 00	16 00	32 00	....	10 00	22 00	....	
615 00	710 00	332 40	260 05	592 45	624 45	84 00	508 45	616 00	
862 90	....	848 60	....	848 60	....	....	848 60	....	

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount earned.	Salary paid by the Government.
				$ c.	$ c.
Lennox and Addington—*Con*	Napanee	County Court Clerk	W. P. Deroche	520 10	....
		Surrogate Registrar	"	324 10	....
Lincoln	St. Catharines	Sheriff	Thomas C. Dawson	2895 80	....
		Surrogate Judge	Judge Senkler	commuted at	
		Local Master	F. W. McDonald	834 85	....
		Deputy Registrar	"	383 65	....
		County Attorney	John McKeown	284 25	....
		Clerk of the Peace	"	1269 41	....
		Deputy Clerk of the Crown	J. Clench	389 85	450 00
		County Court Clerk	"	462 97	....
		Surrogate Registrar	"	787 09	....
Manitoulin	Gore Bay	District Court Clerk	W. S. Frances	17 50	....
		Surrogate Registrar	"	15 01	....
Middlesex	London	Sheriff	William Glass	5286 67	....
		Surrogate Judge	Judge Elliott	commuted at	
		Local Master	James Shanly	1310 99	....
		Deputy Registrar	"	901 00	....
		County Attorney	Chas. Hutchison	2680 58	....
		Clerk of the Peace	"	2232 30	....
		Deputy Clerk of the Crown	John Macbeth	1053 20	500 00
		County Court Clerk	"	2124 00	....
		Surrogate Registrar	"	1677 60	....
Muskoka and Parry Sound	Bracebridge	Sheriff	J. W. Bettes	956 71	250 00
		Surrogate Judge	Judge Mahaffy	14 50	....
		Local Master	"	16 00	....
		County Attorney	A. A. Adair	136 25	....
		Clerk of the Peace	"	137 02	....
		Deputy Clerk	Isaac Huber	48 50	....
		Deputy Registrar	"	34 51	....

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	Remarks.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
520 10	....	438 51	....	438 51	....	.....	438 51	....	
324 10	1707 10	324 10	....	324 10	1611 21	16 62	307 48	1690 48	
....	2895 80	1952 58	748 08	....	2700 66	1016 29	1684 37	1879 51	
....	566 00	566 00	....	....	566 00	....	....	566 00	
834 85	....	576 42	245 18	821 60	....	10 00	811 60	....	
383 65	1218 50	199 58	90 05	289 63	1111 23	20 00	269 63	1188 50	
284 25	....	284 25	....	284 25	....	71 00	213 25	....	
1269 41	1553 66	1269 41	....	1269 41	1553 66	217 64	1051 77	1265 02	
839 85	....	815 45	10 00	825 45	....	6 48	818 97	....	
462 97	....	447 57	48 65	496 22	....	3 00	493 22	....	
787 09	2089 91	782 49	50	782 99	2104 66	70 82	712 17	2009 61	
17 50	....	17 50	....	17 50	......	....	17 50	....	
15 01	32 51	15 01	....	15 01	32 51	2 50	12 51	30 01	From 1st June.
....	5286 67	5049 87	162 24	....	5212 11	2742 26	2469 85	2544 41	
......	1000 00	1000 00	....	....	1000 00	....	....	1000 00	
1310 90	....	110 50	309 45	419 95	....	94 20	325 75	....	
901 00	2211 99	901 00	....	901 00	1320 95	39 00	862 00	2078 79	
2680 58	....	1912 43	842 40	2754 83	....	249 58	2505 25	....	
2232 30	4912 88	1458 08	817 97	2276 05	5030 88	400 00	1876 05	4263 30	
1553 20	....	876 80	68 00	944 80	....	420 00	524 80	....	
2124 00	....	2077 60	21 30	2098 90	....	420 00	1678 90	....	
1677 60	5354 80	1677 60	....	1677 60	4721 30	420 00	1257 60	4094 80	
......	1206 71	542 16	....	....	542 16	772 41	....	434 30	From 1st July.
14 50	....	14 50	.....	14 50	....	....	....	....	
16 00	30 50	16 00	....	16 00	30 50	5 00	11 00	25 50	
136 25	....	51 50	....	51 50	....	31 67	19 83	....	
137 02	273 27	34 68	....	34 68	86 18	84 00	....	157 60	From 1st June.
48 50	....	48 50	....	48 50	....	....	48 50	....	From 1st July.
34 51	83 01	34 51	....	34 51	83 01	....	34 51	83 01	From 1st July.

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount earned.	Salary paid by the Government.
				$ c.	$ c.
Parry Sound	Parry Sound	Sheriff	H. Armstrong	386 84	250 00
		Local Registrar	R. H. Stewart	54 00	300 00
		District Court Clerk	“	7 70	....
Norfolk	Simcoe	Sheriff	E. Deedes	2609 65	....
		Surrogate Judge	Judge Livingston	273 00	....
		County Attorney	J. H. Ansley	560 70	....
		Clerk of the Peace	“	937 85	....
		Local Master	C. C. Rapelje	324 15	....
		Local Registrar	“	373 15	675 00
		County Court Clerk	“	448 60	....
		Surrogate Registrar	“	559 92	....
Northumberland & Durham	Cobourg	Sheriff	I. O. Proctor	6371 08	....
		Surrogate Judge	Judge Benson	commuted at	
		Local Master	J. H. Dumble	1764 02	....
		County Attorney	J. W. Kerr	1487 90	....
		Clerk of the Peace	“	1460 32	....
		Local Registrar	John Fisher	417 00	750 00
		County Court Clerk	“	980 43	....
		Surrogate Registrar	“	1093 36	....
Ontario	Whitby	Sheriff	J. F. Paxton	3149 70	....
		Surrogate Judge	Judge Burnham	commuted at	
		Local Master	Judge Dartnell	478 38	....
		County Attorney	J. E. Farewell	1074 58	....
		Clerk of the Peace	“	1319 69	....
		Local Registrar	L. T. Barclay	224 30	675 00
		County Court Clerk	“	692 15	....
		Surrogate Registrar	“	924 40	....
Oxford	Woodstock	Sheriff	George Perry	2804 88	....
		Surrogate Judge	Judge Finkle	615 00	....

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
....	636 84	305 03	....	....	305 03	184 40	120 63	452 44	From 1st July.
354 00	....	354 00	....	354 00	....	....	354 00	....	From 1st July.
7 70	361 70	7 70	....	7 70	361 70	....	7 70	361 70	From 1st July.
....	2609 65	1715 25	747 52	....	2462 77	1051 60	1411 17	1558 05	
....	273 00	273 00	....	....	273 00	....	273 00	273 00	
560 70	....	560 70	....	560 70	....	71 55	499 15	....	
937 85	1498 55	934 25	....	934 25	1494 95	11 60	922 65	1415 40	
324 15	....	193 98	84 12	278 10	....	1 00	277 10	....	
1048 15	....	913 48	90 12	1003 60	....	1 00	1002 60	....	
448 60	....	387 64	91 05	478 69	....	13 60	465 09	....	
559 92	2380 82	454 04	83 60	537 64	2298 03	14 00	523 64	2351 22	
....	6371 08	3457 94	1242 86	....	4700 80	2152 33	2548 47	4218 85	
....	600 00	600 00	....	600 00	....	....	600 00	....	
....	1764 02	927 02	102 10	1029 12	....	120 00	909 12	1644 02	
1487 90	....	927 66	653 28	1580 94	....	200 00	1380 94	....	
1460 32	2948 22	967 95	504 08	1472 03	3052 97	250 00	1222 03	2498 22	
1167 00	....	948 02	149 20	1097 22	....	125 00	972 22	....	
980 43	....	572 79	211 95	784 74	....	386 00	398 74	....	
1093 36	3240 79	472 66	240 41	713 07	2595 03	106 00	607 07	2623 79	
....	3149 70	2444 54	547 10	....	2991 64	1819 07	1172 57	1330 63	
....	540 00	540 00	....	....	540 00	....	....	540 00	
....	478 38	478 38	....	478 38	....	30 00	448 38	448 38	
1074 58	....	515 25	419 05	934 30	....	218 59	715 71	....	
1319 69	2394 27	783 94	516 61	1300 55	2234 85	296 19	1004 36	1879 49	
899 30	....	899 30	8 00	907 30	....	10 00	897 30	....	
692 15	....	678 00	10 25	688 25	....	15 00	673 25	....	
924 40	2515 85	923 35	34 00	957 35	2555 90	30 00	927 35	2460 85	
....	2804 88	1953 96	837 72	....	2791 68	1449 74	1340 94	1355 14	
....	615 00	615 00	....	....	615 00	....	615 00	615 00	

Appendix H.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount Earned.	Salary paid by the Govern-ment.
				$ c.	$ c.
Oxford—*Con*.	Woodstock	Local Master	H. B. Beard, Q.C.	280 70	
		Deputy Registrar	"	280 54	
		County Attorney	F. R. Ball, Q.C.	328 50	
		Clerk of the Peace	"	1032 88	
		DeputyClerk of the Crown	James Canfield	643 00	450 00
		County Court Clerk	"	869 60	
		Surrogate Registrar	"	1211 00	
el	Brampton	Sheriff	Robert Broddy	2883 04	
		Surrogate Judge	Judge Scott	commuted at	
		Loоal Master	"	543 20	
		County Attorney	W. H. McFadden	309 22	
		Clerk of the Peace	"	851 04	
		Local Registrar	J. A. Austin	125 35	600 00
		County Court Clerk	"	317 19	
		Surrogate Registrar	"	615 79	
Perth	Stratford	Sheriff	John Hossie	4610 37	
		Surrogate Judge	Judge Woods	567 60	
		Local Master	Judge Lizars	777 61	
		County Attorney	John Idington, Q C.	726 25	
		Clerk of the Peace	"	713 89	
		Local Registrar	Jas. McFadden	623 50	675 00
		County Court Clerk	"	772 50	
		Surrogate Registrar	"	897 35	
Peterboro'	Peterboro'	Sheriff	Jas. A. Hall	2172 28	
		Surrogate Judge	Judge Weller	167 50	
		Local Master	"	504 10	
		County Attorney	Robert E. Wood	166 90	
		Clerk of the Peace	"	820 69	
		Local Registrar	John Moloney	175 63	675 00
		County Court Clerk	"	423 38	
		Surrogate Registrar	"	407 56	

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
280 70	....	280 70	....	280 70	....	....	280 70	....	
280 54	561 24	280 54	....	280 54	561 24	....	280 54	561 24	
328 50	....	232 30	123 00	355 30	....	21 00	334 30	.. ..	
1032 88	1361 38	793 75	295 27	1089 02	1444 32	13 50	1065 52	1316 88	
1093 00	....	905 80	63 50	969 30	....	41 65	927 65	....	
869 90	....	627 50	162 30	789 80	....	19 00	770 80	....	
1211 00	3173 60	875 50	170 50	1046 00	2805 10	24 85	1021 15	3088 10	
....	2883 04	2392 60	450 98	....	2843 58	1436 44	1407 14	1446 60	
240 00	....	240 00	....	240 00	....	....	240 00	....	
543 20	783 20	360 50	1 10	361 60	601 60	10 00	351 60	773 20	
309 22	....	217 32	55 10	272 42	....	15 00	257 42	....	
851 04	1160 26	483 59	117 37	600 96	873 38	25 00	575 96	1120 26	
725 35	....	720 05	.. ....	720 05	....	7 32	712 73	....	
317 19	....	316 29	4 80	321 09	....	85	320 24	....	
615 79	1658 33	608 79	6 50	615 29	1656 43	15 22	600 07	1634 44	
....	4610 37	3802 83	717 01	....	4519 84	1391 32	3128 52	3219 05	
567 60	....	567 60	....	567 60	....	....	567 60	....	
777 61	....	295 70	79 30	375 00	....	42 45	332 55	735 16	
726 25	....	629 45	107 40	736 85	....	35 95	700 90	....	
713 89	1440 14	402 15	412 35	814 50	1551 35	239 00	575 50	1165 19	
1298 50	....	1298 50	103 55	1402 05	....	150 00	1252 05	....	
772 50	....	772 50	39 40	811 90	....	150 00	661 90	....	
897 35	2968 35	887 30	....	887 30	3101 25	100 00	787 30	2568 35	
.... ..	2172 28	1945 71	126 51	....	2072 22	442 98	1629 24	1729 30	
167 50	....	167 50	....	167 50	......	....	167 50	....	
504 10	671 60	504 10	....	504 10	671 60	....	504 10	671 60	
166 90	....	82 90	50 60	133 50	....	3 25	130 25	....	
820 69	987 59	381 30	387 97	769 27	902 77	26 20	743 07	958 14	
850 63	....	850 63	....	850 63	....	80 00	770 63	....	
423 38	....	416 78	....	416 78	....	40 00	376 78	....	
407 56	1681 57	407 56	......	407 56	1674 97	40 00	367 56	1521 57	

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount Earned.	Salary paid by the Government.
				$ c.	$ c.
Prescott & Russell	L'Orignal	Sheriff	Albert Hagar........	2273 28	500 00
		Surrogate Judge.........	Judge Olivier........	709 50	....
		Local Master............	F. W. Thistlethwaite.	373 51	....
		County Attorney	John Maxwell.......	185 40	....
		Clerk of the Peace.......	"	837 91	....
		Local Registrar..........	John Fraser.........	77 85	675 00
		County Court Clerk	"	244 00	....
		Surrogate Registrar......	"	214 75	....
Prince Edward ...	Picton	Sheriff	Jas. Gillespie........	1643 86	200 00
		Surrogate Judge.........	Judge Jellett........	233 00	....
		Local Master............	"	467 03	....
		County Attorney	Philip Low, Q.C.....	25 10	....
		Clerk of the Peace.......	"	673 85	....
		Local Registrar..........	John Twigg.........	131 00	600 00
		County Court Clerk....	"	471 00	....
		Surrogate Registrar......	"	401 00	... .
Rainy River......	Rat Portage....	Sheriff	W. H. Carpenter....	592 42	800 00
		Deputy Clerk of the Crown	Frank J. Apjohn	*nil.*	650 00
		District Court Clerk	"	7 45	
		Surrogate Registrar......	"	*nil.*	....
Renfrew	Pembroke	Sheriff	James Morris........	2840 44	....
		Surrogate Judge.........	Judge Deacon........	commuted at	
		Local Master............	"	200 30	....
		County Attorney	J. H. Metcalf........	258 52	....
		Clerk of the Peace.......	"	888 36	....
		Local Registrar..........	A. Thomson	108 60	600 00
		County Court Clerk......	"	481 82	....
		Surrogate Registrar......	"	178 19	....
Simcoe	Barrie..........	Sheriff	T. D. McConkey	6586 05	......
		Surrogate Judge.........	Judge Ardagh	commuted at	

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
2773 28	2773 28	1919 94	698 68	....	2618 62	899 30	1719 32	1873 98	
709 50	....	709 50	....	709 50	....	....	709 50	709 50	
....	373 51	146 54	....	146 54	....	....	146 54	373 51	
185 40	....	185 40	....	185 40	....	43 00	142 40	....	
837 91	1023 31	835 91	....	835 91	1021 31	26 00	809 91	954 31	
752 85	....	752 85	....	752 85	....	....	752 85	....	
244 00	....	227 00	....	227 00	....	....	227 00	....	
214 75	1211 60	214 75	....	214 75	1194 60	160 00	1034 60	1051 60	
....	1843 86	1351 08	430 54	....	1781 62	998 87	782 75	844 99	
233 00	......	233 00	....	233 00	....	....	233 00	....	
467 03	700 03	467 03	....	467 03	700 03	5 00	462 03	695 03	
25 10	....	10 60	73 63	84 23	....	....	84 23	....	
678 85	703 95	376 94	198 11	575 05	659 28	12 00	563 05	691 95	
731 00	....	711 00	15 00	726 00	....	....	726 00	....	
471 00	....	361 00	47 00	408 00	....	....	408 00	....	
401 00	1603 00	370 00	24 00	394 00	1528 00	....	394 00	1603 00	
....	1392 42	1392 42	1 05	1393 47	1393 47	509 16	884 31	883 26	
....	....	....	....	....	....	....	....	....	
....	657 45	657 45	....	657 45	657 45	....	657 45	657 45	
....	....	....	....	....	....	....	....	....	
....	2840 44	2517 21	200 88	....	2718 09	1442 89	1275 20	1397 55	
264 00	....	264 00	....	264 00	....	....	264 00	....	
200 30	464 30	178 90	....	178 90	442 90	....	178 90	464 30	
258 52	....	220 52	....	220 52	....	25 90	194 62	....	
888 36	1146 88	514 07	292 43	806 50	1027 02	38 88	767 62	1082 10	
708 60	....	708 60	....	708 60	....	4 50	704 10	....	
481 82	....	481 82	....	481 82	....	3 50	478 32	....	
178 19	1368 61	178 19	....	178 19	1368 61	1 50	176 69	1359 11	
....	6586 05	5887 14	1119 46	....	7006 60	4634 15	2372 45	1951 90	
....	479 00	....	....	....	479 00	....	479 00	479 00	

Appendix H.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount earned.	Salary paid by the Government.
				$ c.	$ c.
Simcoe—*Continued*	Barrie	Local Master	J. R. Cotter	870 60	
		Deputy Registrar	"	936 90	
		County Attorney	"	968 04	
		Clerk of the Peace	"	1857 43	
		Deputy Clerk of the Crown	J. McL. Stevenson	772 61	500 00
		County Court Clerk	"	1670 25	
		Surrogate Registrar	"	1192 20	
Stormont, Dundas and Glengarry	Cornwall	Sheriff	D. E. McIntyre	3293 27	
		Surrogate Judge	Judge Pringle	342 50	
		Local Master	"	1109 86	
		County Attorney	James Dingwall	793 20	
		Clerk of the Peace	"	772 99	
		Local Registrar	Alex. E. McDonald	143 00	750 00
		County Court Clerk	"	1010 05	
		Surrogate Registrar	"	535 60	
Thunder Bay	Port Arthur	Sheriff	*(Vacant)*	2737 21	1000 00
		Surrogate Judge	Judge Hamilton	42 50	
		Local Master	"	113 75	
		County Attorney	A. R. Lewis	329 80	
		Clerk of the Peace	"	375 18	
		Local Registrar	C. Kreissman	322 70	600 00
		District Court Clerk	"	540 25	
		Surrogate Registrar	"	55 44	
Victoria	Lindsay	Sheriff	John McLennan	2647 04	
		Surrogate Judge	Judge Dean	commuted at	
		Local Master	"	commuted at	
		County Attorney	A. P. Devlin	296 30	
		Clerk of the Peace	"	1006 38	
		Local Registrar	William Grace	168 20	675 00
		County Court Clerk	"	539 05	
		Surrogate Registrar	"	282 75	

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
870 60	....	870 60	....	870 60	....	....	870 60	....	
936 90	....	936 90	....	936 90	....	60 00	876 90	....	
968 04	....	968 04	....	968 04	....	39 00	929 04	....	
1857 43	4632 97	1857 43	....	1857 43	4632 97	128 96	1728 47	4405 01	
1272 61	....	1272 61	....	1272 61	....	123 00	1149 61	....	
1670 25	....	1670 25	....	1670 25	....	277 00	1393 25	....	
1192 20	4135 06	1192 20	....	1192 20	4135 06	190 00	1002 20	3545 06	
....	3293 27	1637 35	464 11	....	2101 46	1099 01	1002 45	2194 26	
342 50	....	342 50	....	342 50	....	....	342 50	....	
1109 86	1452 36	1109 86	....	1109 86	1452 36	....	1109 86	1452 36	
793 20	....	763 60	18 70	782 30	....	67 25	715 05	....	
772 99	1566 19	709 75	236 33	946 08	1728 38	40 57	905 51	1458 37	
893 00	....	893 00	....	893 00	....	....	893 00	....	
1010 05	....	999 05	....	999 05	....	337 00	662 05	....	
535 60	2438 65	535 60	....	535 60	2427 65	....	535 60	2101 65	
....	3737 21	3187 79	759 88	....	3947 67	1258 07	2689 60	2479 14	
42 50	....	42 50	....	42 50	....	....	42 50	....	
113 75	156 25	....	....	113 75	156 25	8 00	105 75	148 25	
329 80	....	273 60	19 80	293 40	....	....	293 40	....	
375 18	704 98	243 20	134 12	377 32	670 72	....	377 32	704 98	
922 70	....	792 70	150 00	942 70	....	586 05	356 65	....	
540 25	....	540 25	....	540 25	....	....	540 25	....	
55 44	1518 39	55 44	....	55 44	1538 39	....	55 44	932 34	
....	2647 04	2145 26	816 76	....	2962 02	400 60	2561 42	2246 44	
500 00	....	500 00	....	500 00	....	....	500 00	....	
900 00	1400 00	900 00	....	900 00	1400 00	....	900 00	1400 00	
296 30	....	296 30	....	296 30	....	6 00	290 30	....	
1006 38	1302 68	1006 38	....	1006 38	1302 68	75 00	931 38	1221 68	
843 20	....	825 00	....	825 00	....	....	825 00	....	
539 05	....	392 25	70 00	462 25	....	35 00	427 25	....	
282 75	1665 00	237 75	....	237 75	1525 00	....	....	1630 00	

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount earned.	Salary paid by the Government.
				$ c.	$ c.
Waterloo	Berlin..........	Sheriff	Moses Springer... .	3729 31	100 00
		Surrogate Judge.........	Judge Miller	commuted at	
		Local Master............	Judge Lacourse.....	commuted at	
		County Attorney	W. H. Bowlby	889 77	....
		Clerk of the Peace	"	1268 15	....
		Local Registrar..........	John McDougall. ...	241 00	1075 00
		County Court Clerk......	"	381 90	....
		Surrogate Registrar......	A. J. Peterson..	1120 34	....
Welland	Welland	Sheriff	George W. Duncan .	2478 12	....
		Surrogate Judge.........	Judge Baxter..... ..	606 60	....
		Local Master............	"	241 46	....
		County Attorney	L. D. Raymond	306 55	....
		Clerk of the Peace	"	781 31	....
		Local Registrar...	I. P. Wilson.........	177 40	1000 00
		County Court Clerk......	"	348 08	. .. ..
		Surrogate Registrar... .	D. D'Everardo	826 28	....
Wellington	Guelph.........	Sheriff	R. McKim	3846 54	....
		Surrogate Judge.........	Judge Drew	commuted at	
		Local Master............	A. M. McKinnon....	1332 84	. ...
		Deputy Registrar	"	381 27	....
		County Attorney	H. W. Peterson	802 38	....
		Clerk of the Peace	"	2431 00	....
		Deputy Clerk of the Crown	James Hough.......	127 20	500 00
		County Court Clerk.....	"	988 80	....
		Surrogate Registrar......	Alex. Mackenzie.....	1360 59	....
Wentworth.......	Hamilton	Sheriff	Hon. A. McKellar...	6510 45	....
		Surrogate Judge	Judge Sinclair......	commuted at	
		Local Master............	Miles O'Reilly, Q.C..	commuted at	
		Local Master and Deputy Registrar........	J. E. O'Reilly		

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	REMARKS.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
3829 31	....	3297 81	377 66	....	3675 47	1740 94	1934 53	2088 37	
....	704 00	....	....	....	704 00	....	....	704 00	
....	591 00	....	....	....	591 00	....	....	591 00	
889 77	....	889 77	....	889 77	....	112 00	777 77	....	
1268 15	2157 92	1268 15	....	1268 15	2157 92	300 00	968 15	1745 92	
1316 00	....	1316 00	....	1316 00	....	125 00	1191 00	....	
381 90	1697 90	381 90	....	381 90	1697 90	125 00	256 90	1447 90	
1120 34	1120 34	1120 34	....	....	1120 34	142 16	978 18	978 16	
....	2478 12	2044 58	614 36	....	2658 94	876 56	1782 38	1601 56	
606 60	....	606 60	....	606 60	....	....	606 60	....	
241 46	848 06	121 28	....	121 28	727 88	5 00	116 28	....	
306 55	....	276 90	104 00	386 90	....	14 00	372 90	....	
781 31	1087 87	423 99	341 38	765 37	1152 27	25 00	740 37	1048 87	
1177 40	....	1161 10	11 45	1172 55	....	48 04	1124 51	....	
348 08	1525 48	325 36	13 55	338 91	1519 46	21 70	317 21	1455 74	
....	826 28	769 23	62 70	831 93	....	394 75	437 18	431 53	
....	3846 54	2312 53	263 13	....	2575 66	2194 52	381 14	1652 02	
....	505 00	505 00	....	....	505 00	....	....	505 00	
1332 84	....	970 14	264 00	1234 14	....	30 00	1204 14	....	
381 27	1714 11	272 37	102 25	374 62	1608 76	10 00	364 62	1674 11	
802 38	....	671 10	111 90	783 00	....	177 00	606 00	....	
2431 00	3233 38	1742 00	696 55	2438 55	3221 55	600 00	1838 55	2456 38	
627 20	....	627 20	....	627 20	....	41	626 79	....	
988 80	1616 00	983 00	7 45	990 45	1617 65	2 00	988 45	1613 59	
....	1360 59	1342 14	18 45	1360 59	....	30 00	1330 59	1330 59	
....	6510 45	5162 11	1046 07	....	6208 18	3385 20	2822 98	3125 25	
....	1000 00	1000 00	....	....	1000 00	....	....	1000 00	
....	4500 00	4500 00	....	....	4500 00	....	....	4500 00	

APPENDIX H.—Schedule shewing Return of Fees and Emoluments of the

COUNTY OR DISTRICT.	COUNTY TOWN.	OFFICE.	OFFICER.	Amount earned.	Salary paid by the Government.
				$ c.	$ c.
Wentworth—*Con.*	Hamilton	County Attorney	John Crerar	1350 10	
		Clerk of the Peace	“	1012 95	
		Deputy Clerk of the Crown	S. H. Ghent	541 45	500 00
		County Court Clerk	“	1709 73	
		Surrogate Registrar	“	1313 90	
York	Toronto	Sheriff	J. H. Widdifield	4258 17	
		Surrogate Judge	Judge McDougall	2344 60	
		“	Judge Morgan		666 00
		County Attorney	G. W. Badgerow	5369 03	
		Clerk of the Peace	T. H. Bull	3143 73	
		Surrogate Registrar	J. G. Brown	3975 42	
		County Court Clerk	Walter McKenzie	5757 95	
	Toronto	Sheriff	Fred. Mowat	17286 39	

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Net amount received.	Net amount due to or received by officer by virtue of all his offices.	Remarks.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1350 10	. ... ..	1150 10	....	1150 10	....	12 50	1138 10	....	
1012 95	2363 05	1012 95	... .	1012 95	2163 05	22 50	990 45	2328 55	
1041 45	....	1019 45	43 60	1063 05	....	....	1063 05	....	
1709 73	. ...	1561 14	204 27	1765 41	....	159 80	1605 61	....	
1313 90	4065 03	1275 95	40 30	1316 25	4144 71	189 00	1127 25	3716 28	
....	4258 17	2786 72	....	....	2786 72	1743 06	1043 66	2515 11	From 5th June.
....	2344 60	2344 60	....	....	2344 60	....	....	2344 60	
....	666 00	666 00	....	....	666 00	....	....	666 00	
5369 03	....	3815 13	1433 20	5248 33	....	1499 46	3748 87	3869 57	
....	3143 73	2742 38	330 50	.. ..	3072 88	520 00	2552 88	2623 73	
....	3975 42	3917 27	58 15	....	3975 42	483 50	3491 92	3491 92	
....	5757 95	5727 15	14 40	....	5741 55	1515 21	4226 34	4242 74	
....	17286 39	14061 42	9053 89	....	15767 94	9053 89	6714 05	8232 50	

(No. 72.)

Return, shewing the names of all persons to whom sums of money have been paid by the Inspectors of any License District within the United Counties of Leeds and Grenville, and the Counties of Wellington, Elgin, Kent, Lanark and Oxford, to any person, either as a counsel or solicitor in the conduct of prosecutions under the Canada Temperance Act, before any Police Magistrate, giving the names of the Magistrates and the full particulars, with dates and items of every such payment. (*Not printed.*)

UNIVERSITY OF TORONTO.

Bursar's Statement of Cash Transactions for Year ending 30th June, 1888.

Presented to the Legislative Assembly,

By Command,

J. M. GIBSON,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 21st March, 1889.

UNIVERSITY OF TORONTO.

THE BURSAR'S STATEMENT, shewing the nature of Investments constituting the Permanent Fund and the Income derivable therefrom, as at 30th June, 1888.

INVESTMENTS.		Amount.	Income.
		$ c.	$ c.
Municipal Debentures—			
$1,355.80 @ 7 per cent.	$94 90		
$279,528.46 @ 6 per cent.	16,771 70		
$157,591.02 @ 5 per cent.	7,879 55		
$2,433.33 @ 4 per cent.	97 33	440,908 61	24,843 48
First Mortgage on Real Estate		575,570 00	35,542 94
Balance due on Sales of Land		21,400 03	1,284 00
Rents		....	1,275 00
Rents, University Park		....	8,474 00
Canadian Bank of Commerce, 7 shares		350 00	24 50
Total		1,038,228 64	71,443 92

J. E. BERKELEY SMITH,
Bursar.

BURSAR'S OFFICE,
Toronto, 2nd July, 1888.

UNIVERSITY OF TORONTO.

The Bursar's Statement of Receipts and Disbursements on Capital Account for the year ending 30th June, 1888.

Receipts.		$ c.	Disbursements.			$ c.
Purchase money—sales of land		22,536 06	Balance, 30th June, 1887			58,513 77
Yonge Street Avenue frontage		225 00	Amount invested in Debentures—			
Loss Kipfer Loan—transferred to Contingent Fund		450 20	Yorkville 7 per cent	$1,000 00		
Loans returned		58,995 00	Premium	169 20	$1,169 20	
Debentures redeemed—			Meaford 6 per cent	$3,000 00		
Waterloo	$10,000 00		Premium	175 50	3,175 50	
Haldimand	2,000 00		St. Catharines 6 per cent	$13,112 77		
Luther	642 49		Premium	1,041 98	14,154 75	
Sandwich, E	1,700 21					18,499 45
Nottawasaga	706 00		Invested in Loans			64,183 25
Port Elgin	179 77					
Rochester	403 85					
Townsend	500 00					
Tilbury	711 60					
Petrolia	1,150 00					
Ellice	611 00					
Mara	53 66					
Drayton	344 08					
	$19,002 66					
Less error in Bank crediting Debentures, Drayton	643 42					
		18,359 24				
Balance, 30th June, 1888		40,630 97				
		141,196 47				141,196 47

J. E. BERKELEY SMITH,
Bursar.

Bursar's Office,
Toronto, 2nd July, 1888.

UNIVERSITY OF TORONTO.

The Bursar's Statement of Receipts and Expenditure on Income Account for the year ending 30th June, 1888.

Receipts.	$ c.	Payments.	$ c.
Balance, 30th June, 1887	6,310 87	Amount appropriated for expenditure transferred to Apper Account	55,800 00
Interest on purchase money—sales of land	1,709 19	Commission on Loans	439 00
Interest on Loans on First Mortgage	32,666 66	Rent—President's House	866 66
Interest on Debentures	23,200 87	Carried to Contingent Fund	2,500 00
Interest on Bank Balances	745 20	Balance, 30th June, 1888	15,718 67
Dividend on Bank Stock	34 71		
Rents	1,615 33		
Rents—University Park	9,057 00		
	75,339 83		
Less Interest transferred to V. C. special account	15 50		
	75,324 33		75,324 33

J. E. BERKELEY SMITH,
Bursar.

Bursar's Office,
Toronto, 2nd July, 1888.

UNIVERSITY OF TORONTO.

The Bursar's Statement of Receipts of Expenditure on Appropriation Account for the year ending 30th June, 1888.

Receipts.		$ c.	Expenditure.	$ c.
Balance 30th June, 1887		11,067 01	Bursar's Office	3,009 07
Appropriation from Income Fund		55,800 00	Insurance	1,640 04
Transfer Fees		62 50	Law Costs	39 20
Pasturage	$74 50		General Incidentals	195 84
Paid Caretaker... $8 00			Salaries	50,035 83
Repairs to fence .. 21 35	29 35		Scholarships	2,956 64
		45 15	Examiners	3,603 32
Insurance, Loans, returned..	$854 11		Prizes, University	20 00
do do paid	781 44		Stationery and Printing, University..	2,464 23
		72 67	do University College	233 70
Fees, University	$5,560 63		Advertising, University	111 37
Fees, University College	6,943 00	12,503 63	do University College	63 91
Physical Laboratory Sale Account		5 00	Biological Laboratory and Museum Natural History	3,833 17
			Geological Museum	34 72
			Library	2,678 24
			Water and Gas	387 39
			Building and Grounds	3,373 78
			Incidentals, University and University College	86 30
			Physical Laboratory Maintenance	229 37
			Chemical Lecture Materials	22 10
			Telephones	97 50
			Pensions, Servants	180 50
			Fuel	1,741 64
			Special Repairs	38 60
			Balance 30th June, 1888	2,479 50
		79,555 96		79,555 96

J. E. BERKELEY SMITH,
Bursar.

Bursar's Office,
Toronto, 2nd July, 1888.

UNIVERSITY OF TORONTO.

The Bursar's Statement shewing Salaries paid for the year ending 30th June, 1888.

Name.	Service.	$ c.
Bursar's Office—		
J. E. Berkeley Smith	Bursar, twelve months' salary	2,200 00
George A. Stimson	Clerk, do	800 00
		3,000 00
University—		
W. Muloch, M.A	Vice-Chancellor, twelve months' salary	400 00
D. B. Dick	Architect, do	100 00
W. H. VanderSmisson, M.A	Librarian, do	1,000 00
H. H. Langton, B.A	Registrar, do	750 00
J. N. Dales	Assistant in Library, allowance	120 00
Jas. Bredner	do do	100 00
J. E. Jones	Registrar's Assistant	200 00
R. McKim	Bedel and Messenger to Senate, twelve months' salary	190 00
T. Eversfield	Engineer, do	480 00
A. Pride	Sub-Curator of Museum, do	524 00
		3,864 00
University College—		
Sir Daniel Wilson	President and Prof. of History, twelve months' salary	4,200 00
Dr. W. H. Pike	Professor of Chemistry, do	3,100 00
E. J. Chapman, Ph. D	do Geology, do	3,100 00
Maurice Hutton, M.A	do Greek, do	3,100 00
Geo. P. Young, M.A	do Metaphysics and Ethics, do	3,100 00
R. Ramsay Wright	do Natural History, etc., do	3,100 00
James Loudon, M.A	do Natural Philosophy, do	3,100 00
J. M. Hirschfelder	Lecturer on Oriental Literature, do	1,500 00
Alfred Baker, M.A	Dean and Professor of Mathematics, do	2,500 00
W. J. Loudon	Demonstrator of Physics, do	1,500 00
D. R. Keys	Lecturer on English. do	1,500 00
W. H. VanderSmissen	do German, do	1,000 00
J. Squair	do French, do	1,500 00
H. R. Fairclough	do Greek, do	1,500 00
W. H. Fraser	do Italian and Spanish do	1,500 00
A. B. Macallum	do Physiology, do	1,500 00
Rev. J. F. McCurdy	do Oriental Literature, do	1,500 00
W. Dale	do Latin, do	1,500 00
H. H. Langton	Registrar, do	250 00
A. C. Mackay	Fellow, allowance	500 00
J. H. McGeary	do do	500 00
F. G. Wait	do do	500 00
J. J. Mackenzie	do do	500 00
T. M. Logie	do do	500 00
W. P. Mustard	do do	500 00
A. F. Chamberlain	do do	500 00
G. Chambers	do do	437 50
F. T. Shutt	do do	62 50
R. McKim	Bedel, six months' wages	510 00
John Hare	Attendance	464 00
R. H. Butten	do	504 00
Joseph Durance	do	444 00
F. T. Harrison	Chemical Lecture Assistant	200 00
		46,172 00
	Add University	3,864 00
	Total Salaries, Fellowships, etc	50,036 00

J. E. BERKELEY SMITH,
Bursar.

BURSAR'S OFFICE,
TORONTO, 2nd July, 1888.

UNIVERSITY OF TORONTO.

Bursar's Statement of Receipts and Expenditure on Medical Faculty Account for the year ending 30th June, 1888.

Receipts.	$ c.	Name.	Disbursements—Service.	$ c.
Fees	15,672 00	Toronto Street Railway Co.	Tickets for students	600 00
Advertisements in Callendar	113 62	Dr. A. H. Wright	Petty disbursements	50 00
		Martin. Toms & Co.	Alcohol	227 84
		City of Toronto	Taxes	11 33
		George Guest	Gas fittings	21 39
		Blachford & Son	Subjects	92 25
		Alex. Millard	do	110 00
		J. W. James	do	15 00
		W. P. King	do	20 00
		J. H. Millard	do	24 00
		M. Morse	do	21 20
		J. Young	Burial of subjects	111 25
		Edward Batters	Wages as janitor	270 00
		Mrs. Batters	Washing towels	9 75
		City of Toronto	Water accounts	65 00
		Consumers' Gas Co	Gas accounts	62 01
		Dr. Ferguson	Stamps	12 16
		E. Batters	Uniform for janitor	16 50
		H. S. Alexander & Sons	Painting, etc.	22 35
		Withrow & Hillock	Carpenter work	25 30
		Geo. Boxall	Stoves, repairs, etc.	43 45
		Fletcher Manufacturing Co.	Iron trap	1 75
		W. McGill & Co	Coal and wood	339 72
		Bell Telephone Co	Rent of telephone	15 00
		"Acta Victoriana"	Advertising	35 00
		"Canada Practitioner"	do	60 00
		"The Rossin House"	Deficit at banquet	105 00
		Rowsell & Hutchison	Printing and stationery	865 02
		R. M. Doan	Advertising	6 00
		A. T. Gormally	Chemicals, etc	9 63
		W. Lloyd Wood	do	18 05
		T. T. C. Dawson	Attendance at Examinations.	4 00
		Dr. W. T. Aikins	Share of Fees	920 00
		Dr. L. McFarlane	do	641 36
		Dr. J. H. Cameron	do	275 53
		Dr. H. H. Wright	do	920 00
		Dr. J. E. Graham	do	641 36
		Dr. George Wright	do	183 68
		Dr. J. H. Richardson	do	920 00
		Dr. M. H. Aikens	do	367 36
		Dr. G. A. Peters	do	91 84
		Dr. W. Ogden	do	920 00
		Dr. A. H. Wright	do	826 58
		Dr. Jas. Thorburn	do	920 00
		Dr. O. R. Avison	do	91 84
		Dr. W. W. Ogden	do	459 22
		Dr. W. Oldright	do	320 68
		Dr. R. A. Reeve	do	183 68
		Dr. G. H. Burnham	do	91 84
		Dr. G. R. McDonagb	do	91 84
		Dr. J. Cavan	do	91 84
		Dr. T. McKenzie	do	183 68
		Dr. J. Ferguson	do	275 53
		Dr. H. W. Aikens	do	91 84
			Balance 30th June, 1888	2,985 97
	15,785 62			15,785 62

J. E. BERKELEY SMITH,
Bursar.

BURSAR'S OFFICE,
TORONTO, 2nd July, 1888.

UNIVERSITY OF TORONTO.

Balance Sheet, 30th June, 1888.

Account.	Dr.	Cr.
	$ c.	$ c.
Cash	55 89	
Bank of Commerce	50,964 12	
do do Medical Faculty Account	2,916 97	
Capital Account	40,630 97	
Income Account		15,718 67
Income Appropriation Account		2,479 50
Starr Bequest		1,481 98
Surplus Income Fund		23,247 53
Special Account Vice-Chancellor		660 63
Stone Building, University Grounds		30,000 00
Biological Laboratory	3,635 00	
St. George Street Property	3,544 40	
Coutts Loan	412 51	
Gymnasium		152 27
Contingent Fund		12,049 80
Medical Faculty		2,985 97
Medical Faculty Surplus		2,390 00
Physical Laboratory Apparatus		50 00
Deposits		5 20
McCaul Medal		15 00
Blake Scholarship		1,250 00
Moss do		2,000 00
Daniel Wilson Scholarship		2,000 00
W. Mulock do		2,000 00
George Brown do		1,054 82
Macdonald Bursary		16 66
Mary Mulock Scholarship		2,500 00
Princes Prize		101 83
	102,159 86	102,159 86

J. E. BERKELEY SMITH,
Bursar.

Bursar's Office,
Toronto, 2nd July, 1888.

ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES

FOR THE

PROVINCE OF ONTARIO,

1888.

PARTS I, II AND III.

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CONTENTS.

PAGE

LETTER OF TRANSMISSION. 1

PART I.—THE WEATHER AND THE CROPS.

THE WEATHER: 3

Temperature, 3—Table showing temperature at ten stations from April to September, 3—Precipitation of rain and snow during the winter of 1887-8, by districts, 4—Table showing rainfall during the season of growth, 5—Table showing the record of sunshine at six stations from April to September, inclusive, 6.

FARM LANDS OF THE PROVINCE: 7

Rural areas assessed (resident and non-resident) by county groups for 1888 and for the province for the previous year, 7—Area in crops for each of the seven years 1882-8, and yearly averages for the period, 8—Area of same crops by county groups for the same period, 9—Area in pasture by county groups for the five years 1884-8, and rate per 1,000 acres cleared in 1888, 9—Proportional area in crops, showing the rate per 1,000 acres cleared, 10.

FALL WHEAT: 11

Condition of the crop during the season, 11—Comparative statement of acreage and yield in 1887 and 1888 by county groups and for the province, 11—Review by districts: Lake Erie counties, 12—Lake Huron counties, 12—Georgian Bay counties, 12—West Midland counties, 13—Lake Ontario counties, 13—St. Lawrence and Ottawa counties, 13—East Midland counties, 14—Northern Districts, 14—Remarks of correspondents, 15.

THE NEW CROP OF FALL WHEAT: 18

Condition of the crop, 18—Remarks of correspondents, 18.

SPRING WHEAT: 19

General review, 19—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 20—Remarks of correspondents, 20.

BARLEY: 23

General review, 23—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 23—Remarks of correspondents, 24.

OATS: 26

General review, 26—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 27—Remarks of correspondents, 27.

RYE: 30

General review, 30—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 30—Remarks of correspondents, 31.

PEASE: 31

General review, 31—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 32—Remarks of correspondents, 32.

INDIAN CORN: 34

General review, 34—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 35—Remarks of correspondents, 35.

SORGHUM: 36

Comments upon the crop, 36—Remarks of correspondents, 36.

BUCKWHEAT: 37

General review, 37—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 37—Remarks of correspondents, 37.

PAGE

BEANS : 38

General review, 38—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 38—Remarks of correspondents, 39.

HAY AND CLOVER : 39

General review, 39—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 40—Clover seed, 40—Remarks of correspondents, 40.

FIELD ROOTS : 43

Potatoes, 43—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 44—Mangel-wurzels, 44—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 44—Carrots, 45—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 45—Turnips, 45—Comparative statement of acreage and yield in 1887 and 1888, by county groups, 46—Remarks of correspondents, 46.

COMPARATIVE YIELD OF FIELD CROPS : 50

Aggregate yield of crops for the seven years 1882-8, 50—Per cent. ratios of aggregate yield to the annual average, 50—Per cent. ratios of yields per acre to annual average, 51—Yields per acre for 1888 and the average for the seven years 1882-8, 52—Ontario vs. American States, being a comparison of the average yield per acre of wheat, barley and oats in Ontario and the principal grain growing States of the American Union, 53.

FRUIT AND FRUIT TREES : 54

General review, 54—Area in Orchard and Garden and rate per 1,000 acres cleared, 55—Remarks of correspondents, 55.

FALL PLOWING . 59

Progress of the work, 59—Remarks of correspondents, 59.

UNDERDRAINING : 61

Progress of the work, 61—Remarks of correspondents, 61.

THRESHING AND MARKETING : 62

Review of operations, 62—Remarks of correspondents, 62.

GENERAL REMARKS : 63

Extracts from observations of correspondents on miscellaneous matters relating to agriculture, 63.

STATISTICS OF THE WEATHER AND THE CROPS : 67

TABLE I.—Showing for each month the highest, lowest, mean highest, mean lowest and mean temperature at the principal stations in Ontario in 1888 ; also the annual mean for each station ... 68

TABLE II.—Showing for each month the annual average of the highest, lowest, mean highest, mean lowest and mean temperature at the principal stations in Ontario, derived from the seven years 1882-8 ; also the average annual mean at each station for the same period 69

TABLE III.—Monthly summary of bright sunshine at the principal stations in Ontario in 1888, showing the number of hours the sun was above the horizon, the hours of registered sunshine, and the total for the year 70

TABLE IV.—Monthly average of bright sunshine at the principal stations in Ontario for the seven years 1882-8, showing the number of hours the sun was above the horizon and the hours of registered sunshine 70

TABLE V.—Monthly summary of the average fall of Rain and Snow in the several districts of Ontario in 1888 71

TABLE VI.—Monthly summary of the annual average fall of Rain and Snow in the several districts of Ontario for the seven years 1882-8 71

TABLE VII.—Summary of the total fall of Rain and Snow, and of the number of days on which Rain and Snow fell in Ontario during the years 1887 and 1888 at Stations reporting for the whole year, and the averages for the province 72

TABLE VIII.—Comparative Meteorological Register for the seven years 1882-8, as recorded at Toronto Observatory in Latitude 43° 39.4′ North and Longitude 5h. 17m. 34.65s. West.... 74

TABLE IX.—Showing by County Municipalities and groups of Counties the Rural Area of Ontario as returned by Municipal Assessors for 1888 75

TABLE X.—Showing by County Municipalities and groups of Counties the area and produce of Fall Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8 ; also the average yield per acre 76

PAGE

TABLE XI.—Showing by County Municipalities and groups of Counties the area and produce of Spring Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre 77

TABLE XII.—Showing by County Municipalities and groups of Counties the area and produce of Barley in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre 78

TABLE XIII —Showing by County Municipalities and groups of Counties the area and produce of Oats in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre 79

TABLE XIV.—Showing by County Municipalities and groups of Counties the area and produce of Rye in Ontario for the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre 80

TABLE XV.—Showing by County Municipalities and groups of Counties the area and produce of Pease in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre 81

TABLE XVI.—Showing by County Municipalities and groups of Counties the area and produce (in the ear) of Corn in Ontario in the years 1887 and 1888, with the yearly average of the six years 1882-8 (1883 not included); also the average yield per acre 82

TABLE XVII.—Showing by County Municipalities and groups of Counties the area and produce of Buckwheat in Ontario in the years 1887 and 1888, with the yearly average for the six years 1882-8 (1883 not included); also the average yield per acre.................. 83

TABLE XVIII.—Showing by County Municipalities and groups of Counties the area and produce of Beans in Ontario in the years 1887 and 1888, with the yearly average for the six years 1882-8 (1883 not included); also the average yield per acre.................. 84

TABLE XIX.—Showing by County Municipalities and groups of Counties the area and produce of Hay and Clover in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre 85

TABLE XX.—Showing by County Municipalities and groups of Counties the area and produce of Potatoes in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.................. 86

TABLE XXI.—Showing by County Municipalities and groups of Counties the area and produce of Mangel-wurzels in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.................. 87

TABLE XXII.—Showing by County Municipalities and groups of Counties the area and produce of Carrots in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.................. 88

TABLE XXIII.—Showing by County Municipalities and groups of Counties the area and produce of Turnips in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre 89

TABLE XXIV.—Showing by County Municipalities and groups of Counties the per cent. ratios of total yields in 1888 to average of the total yields for the seven years 1882-8.................. 90

TABLE XXV.—Showing by County Municipalities and groups of Counties the per cent. ratios of average yields per acre in 1888 to average yields per acre for the seven years 1882-8 91

TABLE XXVI.—Showing by County Municipalities and groups of Counties the total area under crop (including Wheat, Barley, Oats, Rye, Pease, Corn, Buckwheat, Beans, Potatoes, Mangels, Carrots, Turnips and Hay and Clover) in Ontario in the years 1882-8, with the yearly average of the period 92

TABLE XXVII.—Showing by County Municipalities and groups of Counties the number of acres under the various crops in Ontario in 1888 per 1,000 acres of cleared land.................. 93

TABLE XXVIII.—Showing by County Municipalities and groups of Counties the average number of acres under the various crops per 1,000 acres of cleared land in Ontario for the seven years 1882-8.................. 94

TABLE XXIX.—Showing by County Municipalities and groups of Counties the area of Pasture in Ontario in the five years 1884-8; also the rate per 1,000 acres cleared in the year 1888 .. 95

TABLE XXX.—Showing by County Municipalities and groups of Counties the area in Orchard and Garden in Ontario, with the annual average for the period; also the rate per 1,000 acres cleared in 1888 and the average for the period 1882-8.................. 96

PART II.—LIVE STOCK, THE DAIRY AND THE APIARY.

PAGE

LIVE STOCK : 97

General Review, 97—Table showing by county groups the numbers of working horses, breeding mares and unbroken horses in the province for each of the five years 1884-8, 98—Table showing by county groups the number of horned cattle in the province, by classes, for 1887 and 1888, and the total number in each of the five years 1884-8, 98—Statistics of sheep (classified as coarse and fine woolled) by county groups for the same period, 99—Wool clip for 1887 and 1888 by county groups, and average clip for seven years, 1882-8, 100—Average weight per fleece for 1887 and 1888, and for seven years, 100—Statistics of hogs in each year since 1884, by county groups and for the province, 101—Statistics of poultry, classified as turkeys, geese and other fowls, 101—Proportionate numbers of live stock per 1,000 acres cleared, 102—Remarks of correspondents, 102.

THE DAIRY INDUSTRY : 107

General review, 107—Cheese, 107—Table showing estimated quantity of cheese made in each year since 1883, and average for the period, 108—Average number of patrons and cows, with average product of each cow and return for each patron, 108—Comparative table, showing by groups of counties the average business per factory and the results obtained per cow for 1887, 1888 and the average for six years 1883-8, 109—Butter, 110—Table showing the average business per creamery in each of the years 1883-8, together with the average for the period, 111—The favorite dairy cow, 111—Remarks of correspondents, 111—Ensilage, 113.

THE APIARY : 114

General review, 114—Remarks of correspondents, 115.

STATISTICS OF LIVE STOCK AND DAIRY PRODUCTS : 119

TABLE I.—Showing by County Municipalities and groups of Counties the number of Working Horses, Breeding Mares and Unbroken Horses in Ontario in 1888 ; also the totals for the five years 1884-8 120

TABLE II.—Showing by County Municipalities and groups of Counties the number of Oxen, Milch Cows, Store Cattle, and young and other Cattle in Ontario in 1888 ; also the totals for the five years 1884-8 121

TABLE III.—Showing by County Municipalities and groups of Counties the number of Coarse and Fine Woolled Sheep in Ontario in 1888 ; also the totals for the five years 1884-8...... 122

TABLE IV.—Showing by County Municipalities and groups of Counties the number of Hogs (over and under one year) in Ontario in 1888 ; also the totals for the five years 1884-8..... 123

TABLE V.—Showing by County Municipalities and groups of Counties the number of Turkeys, Geese and other Fowls in Ontario in 1888 ; also the totals of Poultry for the five years 1884-8. 124

TABLE VI.—Showing by County Municipalities and groups of Counties the number and value of Live Stock in Ontario in the years 1887 and 1888 per 1,000 acres of cleared land........ 125

TABLE VII.—Showing by County Municipalities aad groups of Counties the clip of Coarse Wool in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8 ; also the average number of pounds per fleece 126

TABLE VIII.—Showing by County Municipalities and groups of Counties the clip of Fine Wool in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8 ; also the average number of pounds per fleece 127

TABLE IX.—Showing by County Municipalities and groups of Counties the total Clip of Wool in Ontario in the seven years 1882-8, with the yearly average for the seven years.......... 128

TABLE X.—Showing by County Municipalities and groups of Counties the quantity and value of Cheese made at 557 factories in Ontario in 1888, the average dates of opening and closing, and the total number of factories reported in operation.......... 129

TABLE XI.—Showing by County Municipalities and groups of Counties the average of days in operation, of number of patrons, of average number of cows, yield of milk, and of value of product per cow for 404 Cheese factories in Ontario making complete returns in 1888... 130

TABLE XII.—Showing by County Municipalities and groups of Counties the yearly average per factory of days in operation. of the quantity and value of cheese made, of number of patrons, of average number of cows, yield of milk and value of product per cow, computed from an aggregate of 2,581 factories making complete returns in the six years 1883-8.. 131

TABLE XIII.—Showing by County Municipalities the quantity and value of Butter made at 27 creameries in Ontario in 1888, and the number of creameries reported in operation........ 132

PART III.—VALUES, RENTS AND FARM WAGES.

PAGE

Values of farm property, 133—Value per acre occupied, 134—Values of live stock per 1,000 acres cleared, 135—Rentals of leased farms, 135—Market prices, 136—Value of crops, 137—Crop values by county groups, 137—Per cent. ratios of values per acre, 138—Value of produce per acre under crop, 139.

FARM LABOR AND WAGES: 139

General review, 139—Wages of farm laborers, 140—Remarks of correspondents, 141.

STATISTICS OF VALUES, RENT AND FARM WAGES: 145

TABLE I.—Showing by County Municipalities and groups of Counties the Value of Farm Land in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre 146

TABLE II.—Showing by County Municipalities and groups of Counties the Value of Farm Buildings in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre 147

TABLE III.—Showing by County Municipalities and groups of Counties the Value of Farm Implements in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre 148

TABLE IV.—Showing by County Municipalities and groups of Counties the Value of Farm Live Stock in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre 149

TABLE V.—Showing by County Municipalities and groups of Counties the Value of Farm Property (Land, Buildings, Implements and Live Stock) in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre.. 150

TABLE VI.—Showing by County Municipalities and groups of Counties the average area, value and rental of leased farms in Ontario as reported in the year 1888; also the average per acre for 1886, 1887 and 1888 151

TABLE VII.—Showing the average prices of Agricultural Products at the leading markets of Ontario for July-December in 1888, and the average for the half-year and for the Province. 152

TABLE VIII.—Showing by County Municipalities and groups of Counties the marketable value of Fall Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 154

TABLE IX.—Showing by County Municipalities and groups of Counties the marketable value of Spring Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 155

TABLE X.—Showing by County Municipalities and groups of Counties the marketable value of Barley in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 156

TABLE XI.—Showing by County Municipalities and groups of Counties the marketable value of Oats in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 157

TABLE XII.—Showing by County Municipalities and groups of Counties the marketable value of Rye in Ontario in the years 1887 and 1888, with the yearly value for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 158

TABLE XIII.—Showing by County Municipalities and groups of Counties the marketable value of Pease in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 159

TABLE XIV.—Showing by County Municipalities and groups of Counties the aggregate marketable value of Wheat, Barley, Oats, Rye and Pease in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 160

TABLE XV.—Showing by County Municipalities and groups of Counties the marketable value of Corn in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 161

PAGE

TABLE XVI.—Showing by County Municipalities and groups of Counties the marketable value of Buckwheat in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 162

TABLE XVII.—Showing by County Municipalities and groups of Counties the marketable value of Beans in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 163

TABLE XVIII.—Showing by County Municipalities and groups of Counties the marketable value of Hay and Clover in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 164

TABLE XIX.—Showing by County Municipalities and groups of Counties the marketable value of Potatoes in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 165

TABLE XX.—Showing by County Municipalities and groups of Counties the marketable value of Carrots in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 166

TABLE XXI.—Showing by County Municipalities and groups of Counties the marketable value of Turnips in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 167

TABLE XXII.—Showing by County Municipalities and groups of Counties the aggregate marketable value of Corn, Buckwheat, Beans, Hay, Potatoes, Carrots and Turnips in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 168

TABLE XXIII.—Showing by County Municipalities and groups of Counties the total marketable value of all field crops in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8 169

TABLE XXIV.—Showing by County Municipalities and groups of Counties the marketable value of the Wool Clip in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of clip per fleece, and the per cent. ratio of this average in 1888 to that of the four years 1885-8 170

TABLE XXV.—Showing by County Municipalities and groups of Counties the average Wages of Farm Laborers and Domestic Servants in Ontario in 1887 and 1888, and the average for the seven years 1882-8 171

SEVENTH ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES.

1888.

TO THE HONORABLE CHARLES DRURY, MINISTER OF AGRICULTURE:

SIR,—I have the honor to submit herewith Parts I, II and III of the seventh annual report of the Bureau of Industries for the Province of Ontario, consisting of—

I. The Weather and the Crops;
II. Live Stock, the Dairy and the Apiary, and
III. Values, Rents and Farm Wages.

I have the honor to be, Sir,
Your obedient servant,
A. BLUE, Secretary.

TORONTO, 1889.

PART I.

THE WEATHER AND THE CROPS.

THE WEATHER.

The necessity of heat, moisture and sunlight as essentials to the successful development of plant life gives an importance to the proportion of each or all of these influences prevailing at particular periods. An excess or a decrease in the temperature, precipitation or sunshine at certain times of the year may disappoint the expectation and render of comparatively little account the best endeavors of the agriculturist, for in every year there will be found a close accord between the character of the seasons as distinguished by heat, moisture and sunlight, and the general condition of the crops. Each season, and even each month, like each human countenance, has features and expressions peculiarly its own, thus giving distinguishing characteristics to the year, the effects of which are left upon both the yield and the quality of the products of the field, the orchard and the garden. These variations of the weather afford an interesting study, and the following tables have been prepared for the purpose of comparison.

TEMPERATURE.—The six months beginning with April and ending with September constitute the growing season for most of the crops of the province, and the temperature of that period decides to a considerable degree the general character of the products of the soil. During the six years 1882-7, the tables of temperature as published in the reports of the Bureau were prepared from returns made at ten stations, nine of which were known as High School stations, viz., Windsor, Goderich, Simcoe, Stratford, Hamilton, Barrie, Peterborough, Cornwall and Pembroke. At the tenth place, Toronto, the returns were made by the Observatory. A Government grant had been given to these High School stations for meteorological purposes, under an arrangement with the Education Department made some years ago, but owing to the recent withdrawal of the grant no returns were made from these points to the Meteorological Office at Toronto in 1888, the result being that nine new stations were selected, the names of which appear in the following table:

Months.		Saugeen.	Birnam.	London.	Woodstock.	Stony Creek.	Toronto.	Lindsay.	Gravenhurst	Ottawa.	Rockliffe.	Province averages.
		°	°	°	°	°	°	°	°	°	°	°
April..	1888	35.8	39.2	38.9	39.9	41.2	38.9	36.8	34.9	37.2	33.9	37.7
	1882-8	38.0	41.6	41.8	41.0	41.3	40.0	38.3	36.7	38.4	35.8	39.3
May ..	1888	48.0	53.2	52.9	52.6	50.3	50.6	51.4	50.9	55.2	51.9	51.7
	1882-8	49.4	54.6	54.6	53.5	53.0	51.9	52.5	51.8	55.6	51.0	52.8
June..	1888	61.1	64.6	64.8	65.8	67.3	64.4	65.5	64.7	68.0	65.0	65.1
	1882-8	59.6	63.8	64.2	64.3	64.4	62.7	63.0	62.5	65.9	61.0	63.1
July ..	1888	62.7	66.2	69.1	68.4	68.3	66.2	65.7	66.1	70.3	64.5	66.7
	1882-8	63.3	67.8	68.3	68.1	69.8	67.3	66.3	66.0	68.9	64.5	67.0
August	1888	62.0	66.0	68.4	62.9	70.1	66.0	64.6	64.7	66.5	60.9	65.2
	1882-8	62.6	64.6	64.5	64.6	67.6	65.4	63.6	63.3	65.5	61.6	64.3
Sept'r.	1888	58.4	56.6	57.7	56.0	57.9	56.5	53.6	54.8	55.7	50.9	55.8
	1882-8	56.3	59.4	58.0	58.1	60.5	58.2	55.7	55.7	56.6	53.2	57.2
Av. for 6 m'ths.	1888	54.7	57.6	58.6	57.6	59.2	57.1	56.3	56.0	58.8	54.5	57.0
	1882-8	54.9	58.6	58.6	58.3	59.5	57.6	56.6	56.0	58.5	54.5	57.3

This change in the stations has had the effect of lowering the annual average of the temperature of the province during the six months by 1.7°, the stations enumerated in table showing an average for the six years 1882-7 of 57.3°, while that of the high school stations for the same period was 59°. The average temperature of the province for the six months in 1888 was 57°, or .3° below that of the annual average for the same period for the seven years. At Ottawa the season's average was .3° higher than in the seven years for the same station, and at London, Gravenhurst and Rockliffe the averages for 1888 were identical with the seven years' averages at the same stations. At the other stations the variations in the figures of 1888 from the annual averages were very slight, the greatest being observed at Birnam (in the county of Lambton) where the average for the season of 1888 fell 1° below that of the seven years' period. But while the average for the full growing season of 1888 shows but a slight change compared with that of the seven years 1882-8, considerable variations are recorded at some stations during particular months, as for instance at Saugeen, where the thermometer registered 2.2° lower in April and 2.1° higher in September than in the corresponding months of the seven years period. The temperature of April for the province was 37.7°, or 1.6° below the annual average of the month, a fact that tallies with the reports of correspondents of this Bureau, who stated that a good deal of injury was done to fall wheat by frosts in April. In May the temperature was lower by 1.1° than the annual average for the same month, and this, with the low temperature of the preceding month, accounts for the backward spring and rather late harvest. The temperature in June registered 2° higher than the annual average for that month, but in July (the warmest month) it fell .3° below that month's annual average. August was .9° higher than its average, while September was 1.4° below its record for 1882-8.

PRECIPITATION.—The matter of snowfall is of great importance in this province, from an agricultural standpoint, for a large acreage of fall wheat is annually sown, and the young fields of clover depend considerably upon the friendly shelter of snow to prevent "heaving" and general injury from frost in winter and early spring. In the following table the precipitation of rain and snow is given by districts for the five months of 1887-8 generally marked by snow or wintry weather, the average of each month for the seven years 1882-8, and the average of the province for the various periods:

Months.		West and South-west.		North-west and North.		Centre.		East and North-east.		Province averages.	
		Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.
		Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch	Inch.
November ..	1887	2.50	5.6	1.54	18.4	2.35	6.3	1.51	8.7	1.98	9.8
	1886	2.31	7.9	1.93	16.0	2.26	6.6	1.77	14.3	2.07	11.2
	1882-7	2.21	7.0	2.01	16.1	2.02	5.9	1.71	10.2	1.99	9.8
December...	1887	2.16	13.9	1.55	18.9	2.09	15.4	1.47	11.1	1.82	14.8
	1886	0.70	26.2	0.29	22.0	0.49	16.1	0.53	15.6	0.50	20.0
	1882-7	1.25	18.1	1.08	25.5	1.22	14.7	0.96	17.3	1.13	18.9
January.....	1888	0.86	15.5	0.27	21.5	0.95	15.6	0.22	15.2	0.57	16.9
	1887	1.08	26.6	1.72	29.3	1.00	23.0	1.52	27.0	1.33	26.5
	1882-8	1.03	18.6	1.02	30.8	1.10	19.5	0.83	23.7	0.99	23.2
February	1888	1.11	5.1	0.53	14.3	0.83	5.9	0.59	11.7	0.77	9.3
	1887	4.01	10.2	1.23	28.2	2.50	20.1	1.26	29.6	2.25	22.0
	1882-8	1.85	10.8	0.79	21.5	1.40	11.4	0.80	18.1	1.21	15.5
March	1888	2.07	10.6	1.36	20.4	1.92	8.5	1.38	14.2	1.68	13.4
	1887	0.85	6.4	0.12	11.1	0.60	7.3	0.50	15.6	0.52	10.1
	1882-8	1.42	11.3	1.01	15.1	1.28	10.1	0.99	15.7	1.17	13.0
Totals.......	1888	8.70	50.7	5.25	93.5	8.14	51.7	5.17	60.9	6.82	64.2
	1887	8.95	77.3	5.29	106.6	6.85	73.1	5.58	102.1	6.67	89.8
	1882-8	7.76	65.8	5.91	109.0	7.02	61.6	5.29	85.0	6.49	80.4

The rainfall for the province was slightly above the average for the seven years, but the precipitation of snow was only 64.2 inches, compared with 80.4 inches in 1882-8, a decrease of about 20 per cent. The fall of both snow and rain in November was normal, but in December the down-pour of rain was over 60 per cent. above the average for that month, while the fall of snow was over four inches less than usual. In January there was a light precipitation, the rainfall being only .57 inch compared with .99 inch in 1882-8, while there were but 16.9 inches of snow, or 6.3 inches below the average fall. The fall of rain and snow in February was also small, there being only .77 inch of rain, against an average of 1.21 inch for the month, and but 9.3 inches of snow compared with an average of 15.5 inches. The rainfall of March was nearly half as much again as that of the annual average for the month, but there was very little difference in the fall of snow compared with the average. In the three months of December, January and February there was a decrease from the average in the precipitation of snow of 16.6 inches, and it is not surprising that correspondents report considerable winter-killing of fall wheat and serious injury to clover from exposure through absence of snow at times between the fall and spring. The greatest rainfall was observed in the west and south-west district, that portion of the province lying more directly between lakes Huron and Erie, a region that led in this respect in the average for the seven years. The smallest rainfall occurred in the east and north-east district, at the opposite extreme of the province, and this district also shows the least rainfall for the seven years' period. The snowfall was greatest in the west and the north-west district, which kept up its record for the deepest snow, but although 93.5 inches were measured, or 29.3 inches more than the average of the province for the year, the precipitation was less by 15.5 inches than the average of the same district for the seven years 1882-8. The least snowfall was returned from the west and south-west district, and a light fall of snow was also experienced in the centre district. As one inch of rain is the equivalent of ten inches of snow, the total precipitation was largest in the north and north-west district, being equal to 14.60 inches of rain, or 1.36 inch more than the average of the province, and it was smallest in the east and north-east district, where it was equal to 11.26 inches of rain, or 1.98 inch less than the average for the province.

The absence or frequency of rain, however, is of more particular importance during the season of growth, as, with the exception of roots and some of the later vegetables, nearly all the field products of the province are matured by the end of September. The following table shows the rainfall by districts and the province for the six growing months of 1888, and the averages for the seven years 1882-8:

Months.	West and South-west.		North-west and North.		Centre.		East and North-east.		Province averages.	
	1888	1882-8	1888	1882-8	1888	1882-8	1888	1882-8	1888	1882-8
	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.
April	1.75	2.01	1.63	1.76	1.37	1.87	1.89	1.97	1.66	1.90
May	1.75	3.04	2.21	2.49	1.29	2.54	1.40	2.40	1.66	2.62
June	3.31	3.26	1.45	2.74	3.05	2.96	1.84	2.69	2.41	2.91
July	2.44	2.72	1.05	2.34	1.39	2.31	1.08	2.77	1.49	2.54
August....	2.51	2.95	3.39	2.62	2.74	2.43	3.87	2.64	3.13	2.66
September.	2.27	2.48	2.57	3.04	2.68	2.59	3.15	2.70	2.67	2.70
Totals.....	14.03	16.46	12.30	14.99	12.52	14.70	13.23	15.17	13.02	15.33

NOTE.—The weather districts given in these tables are those of the Meteorological Office. The Centre is a circular district whose centre is a point in lake Ontario, about midway between Toronto and the mouth of the Niagara river, and embracing the counties of Welland, Lincoln, Wentworth, Halton and Peel, and portions of York, Ontario and Durham. A line drawn from the circumference of the circle through Guelph to Goderich is the limit between the West and South-west and the North-west and North districts, and a line from lake Scugog to Rockliffe, on the Ottawa river, is the limit between the North-west and North and the East and North-east districts.

The season was a dry one, the total rainfall for the six months being but 13.02 inches, as against an average of 15.33 inches for the same period in the seven years 1882-8. Compared with the previous year of drouth, when only 10.16 inches was recorded, the year 1888 shows an increase of 2.86 inches; but taking the four months, April to July, which is essentially the grain-growing period, the rainfall of 1888 was but 7.22 inches, against 7.41 inches in 1887, while the seven years' average of the province in the same four months was 9.97 inches. The driest month of the six was July, when only 1.49 inch fell, while August was the wettest, with a record of 3.13 inches. In fact August was the only month that exceeded its average for the seven years 1882-8. May was an exceedingly dry month, only 1.66 inch of rain being observed against an average for that month of 2.62 inches. Taking the province by districts it will be seen that the greatest rainfall occurred in the west and south-west, where 14.03 inches were recorded, and the least was reported in the north-west and north, where but 12.30 inches fell. The greatest rainfall for any month occurred in the east and north-east in August, amounting to 3.87 inches, and the least was in the north-west and north in July, being but 1.05 inch. Applying the record given above to its probable effect upon the crops, it will be seen that there is a perfect agreement between it and the statements of correspondents regarding the condition of the crops. The season was dry as well as cold and backward; fall wheat and other grains as well as hay and clover suffered from the drouth, and the exceedingly dry weather of July thinned the recently sown fields of turnips and other roots. The rainy days of August discolored the barley, and delayed harvesting, but, on the other hand, they revived the pastures and enabled the root crops to get a fair start after their set-back by July's drouth. September being an average month for rain, the crops in the ground continued to make fair progress.

SUNSHINE.—The table following gives the record of sunshine during the growing season April–September for the six years 1883-8, except in the case of Woodstock and Toronto, which stations have furnished returns for seven years. For the Niagara peninsula the record is for five years; in the first two years the observations were taken at St. Catharines, and in the latter three years at Niagara Falls South:

Months.		Woodstock.	Niagara Falls, S.	Toronto.	Barrie.	Lindsay.	Kingston.	Province averages.
		Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.
April....	1888....	194.5	198.7	229.1	216.4	217.2	206.2	210.4
	1887....	176.7	171.6	178.0	125.5	191.6	211.3	175.8
	1883-8..	193.0	161.4	192.7	164.9	201.8	188.5	183.7
May	1888....	183.0	208.8	189.7	158.1	195.9	212.5	191.3
	1887....	263.2	272.8	290.7	253.1	284.7	260.7	270.9
	1883-8 ..	206.2	209.9	228.3	203.1	229.4	222.3	216.5
June....	1888....	256.6	271.0	289.1	270.1	306.5	286.2	279.9
	1887....	238.8	230.7	232.4	217.5	235.2	243.9	233.1
	1883-8 ..	247.4	251.7	274.6	243.4	272.3	251.1	256.8
July	1888....	269.5	291.4	282.4	252.5	279.7	315.7	281.9
	1887....	300.6	286.1	310.0	280.6	305.2	295.5	296.3
	1883-8 ..	264.2	262.6	285.4	255.3	279.4	264.8	268.6
August..	1888....	245.8	255.3	258.5	243.0	227.7	245.3	245.9
	1887....	236.6	277.0	267.1	188.9	251.1	282.3	250.5
	1883-8 ..	227.7	247.5	257.7	213.9	237.7	254.6	239.8
Sept.....	1888....	219.8	199.7	227.7	189.1	206.2	213.6	209.4
	1887....	177.0	167.8	190.4	138.1	167.2	172.9	168.9
	1883-8 ..	199.7	188.4	214.1	159.6	205.4	203.9	195.2
Totals...	1888....	1,369.2	1,424.9	1,476.5	1,329.2	1,433.2	1,479.5	1,418.8
	1887	1,392.9	1,406.0	1,468.6	1,203.7	1,435.0	1,466.6	1,395.5
	1883-8 ..	1,338.2	1,321.5	1,452.8	1,240.2	1,426.0	1,385.2	1,360.6

The hours of sun above the horizon (calculated for the latitude of Toronto) in April was 406.4; in May, 461.1; in June, 465.7; in July, 470.9; in August, 434.5, and in September, 376.3, there being 2614.9 hours of possible sunshine in the six months. The table of sunshine for 1887, presented in last year's report, was made up from the returns made by ten stations; but, for the reason given before, there are no returns this year from Windsor, Stratford, Cornwall or Pembroke, and this reduction in the number of stations has increased the average of sunshine of the province for the five years 1883-7 from 1,333.0 to 1,348.2 hours—a very small percentage, however. The actual sunshine of the province in 1888 was 1,418.8 hours, or over 54 per cent. of the possible. The mean sunshine of 1887 for the same stations was 1,395.5 hours, showing an increase in 1888 of 23.3 hours; and there is an increase of 58.2 hours, compared with the annual average of the growing season. July was the brightest month, there being 281.9 hours of sunshine, or nearly 60 per cent. of the possible. June came next with 279.9 hours; but while the number of hours were less the proportion of possible sunshine was slightly higher. April was unusually bright for that time of year, there being an increase of 26.7 hours over its average for the six years 1883-8, while May was the reverse, with a decrease of 25.2 hours, the latter month showing the least sunshine of the six. In fact, May was the only month in which the record of sunshine fell below that of its annual average, a decided increase being observed in every other month. Taking the stations, Woodstock had less sunshine than in 1887, but more than it averaged in the seven years 1882-8. There was a small increase in Niagara Falls South over the previous year, but 103.4 hours more than the annual average of that station. There were 7.9 hours more of sunshine in Toronto in 1888 than in 1887, but the average record of sunshine for that station was exceeded by 23.7 hours. Lindsay showed but slight variations compared with the previous periods; but there was a marked increase of sunshine in Barrie. This station, however, had less sunshine than any other. Kingston enjoyed more sunshine in 1888 by 12.9 hours than in the previous year, and 94.3 hours more than in the years 1883-8, and it also led the other stations in total sunshine, Toronto coming next.

FARM LANDS OF THE PROVINCE.

RURAL AREAS ASSESSED.—The statistics of farm lands (in municipally organized townships only) showing the areas assessed as resident and non-resident, the acreage cleared, wood land, swamps, marsh and waste lands are compiled from assessors' returns and are tabulated by county municipalities in table ix. The following summary is by groups of counties for 1888, and shows the progress made by groups in acres cleared compared with 1887; also, the revised figures of 1887 for the province:

Districts.	Acres Assessed.			Acres Cleared.		Acres wood land.	Acres swamp, marsh or waste.	Per cent. cleared.
	Resident.	Non-Resident.	Total.	1888.	1887.			
Lake Erie......	2,262,759	75,630	2,338,389	1,334,460	1,313,365	887,642	116,287	57.1
Lake Huron.....	2,198,229	72,445	2,270,674	1,258,315	1,207,861	822,676	189,683	55.4
Georgian Bay....	1,917,070	93,728	2,010,798	1,008,510	990,349	805,450	196,838	50.2
West Midland...	3,205,417	47,104	3,252,521	2,234,655	2,215,649	694,861	323,005	68.7
Lake Ontario....	3,006,674	44,653	3,051,327	2,281,082	2,266,314	551,143	219,102	74.8
St. Law. & Ottawa	4,966,588	275,204	5,241,792	2,245,912	2,208,925	2,233,923	761,957	42.8
East Midland....	2,143,935	489,285	2,633,220	826,626	796,668	1,495,671	310,923	31.4
North'n Districts.	1,122,754	136,804	1,259,558	125,165	120,386	1,021,374	113,019	9.9
The Province 1888..	20,823,426	1,234,853	22,058,279	11,314,725	....	8,512,740	2,230,814	51.3
The Province 1887.	21,026,636	951,907	21,978,543	....	11,119,517	8,705,613	2,153,413	50.6

The area of lands assessed as occupied in 1887 as shown above, exceeds that published in the last report by 179,526 acres (of which 11,169 acres are cleared), being the total areas assessed in the townships of Himsworth, Billings, Cockburn Island, Hilton, Bonfield, Ferris, Mattawan, Papineau, Springer and Widdifield. No returns had been received from those recently organized townships at the time of compilation of the former report. The acreage does not appear on the assessment rolls of Keewatin, (organized in 1888) Neebing and Rat Portage. The increase in lands assessed in the Northern Districts over 1887 is due to the incorporation in 1888 of the township of Perry (40,454 acres), while the balance of the increase in lands assessed is found in the St. Lawrence and Ottawa and East Midland groups, the other five groups of counties each showing a small decrease. The large increase of non-resident lands in the East Midland group is due to the presence of over 335,000 acres of the Canadian Land and Immigration Company's lands in Haliburton, which were formerly assessed as resident. The cancellation of lands to the extent of 15,000 acres in the townships of Lindsay and Bury St. Edmunds, county of Bruce, and the placing upon the resident rolls of 18,000 acres of Canada Company's lands in the township of Bosanquet, county of Lambton, formerly assessed as non-resident, chiefly contribute to the large decrease of non-resident land in the Lake Huron group. As naturally to be expected there has been an increase in the cleared land in every group, the average for the province exceeding that of the year 1887 by .7 per 100 acres occupied. An increase is noticeable in the acreage of swamp, marsh or waste lands, but as in a large number of townships in the newer districts not an acre appears upon the assessment rolls, it is probable the figures are yet below the mark. The area, therefore, stated to be in woodland includes a portion which properly belongs to waste lands.

AREA IN CROPS.—The following table shows the number of acres under staple field crops in each of the seven years from 1882 to 1888, together with the averages for the period :

Field Crops.	1888.	1887.	1886.	1885.	1884.	1883.	1882.	Average 1882-8.
Fall Wheat....	826,537	897,743	886,402	875,136	864 740	1,097,210	1,188,520	948,041
Spring Wheat.	367,850	484,821	577,465	799,463	721,647	586,410	586 817	589,210
Barley	895,432	767,346	735,778	597,873	700,472	757,156	848,617	757,525
Oats	1,849,868	1,682,463	1,621,901	1,543,745	1,481,828	1,418,309	1,387,487	1,569,371
Rye	84,087	68,362	67,779	78,293	103,416	188,111	185,276	110,761
Pease	696,653	726,756	703,936	646,081	570,928	542,771	560,770	635,414
Corn	222,971	163,893	156,494	167,831	174,560	214,237	206,755	186,677
Buckwheat	57,528	64,143	70,792	61,776	65,836	67,802	50,035	62,559
Beans	22,700	20,275	21,072	24,651	24,878	25,907	19,787	22,753
Potatoes	153,915	140,283	140,143	159,741	168,757	166,823	160,700	155,766
Man'l-wurzels .	21,459	17,924	18,170	16,435	18,341	17,219	15,791	17,906
Carrots........	11,524	9,110	9,267	9,024	10,987	11,270	9,955	10,162
Turnips	113,188	105,322	98,931	102,303	104,199	98,429	78,823	100,171
Hay and Clover	2,292,638	2,280,643	2,295,151	2,268,091	2,193,369	2,350,969	1,825,890	2,215,250
Totals......	7,616,350	7,429,084	7,403,281	7,350,443	7,203,958	7,542,623	7,125,223	7,381,566

Corresponding to the increase in cleared land in the province we find an excess in acres under these staple crops over 1887 of 187,266 acres, or more than 2½ per cent. Only four crops, fall wheat, spring wheat, pease and buckwheat, show a diminished area compared with 1887, and the areas in fall wheat, spring wheat, rye, buckwheat, beans and potatoes are below the annual averages devoted to these crops. Fall wheat and spring wheat have reached the lowest acreages recorded for these crops since the establishment of the Bureau, while the acreages in barley, oats, corn, mangels, carrots and turnips have reached the highest point.

The area devoted to the same crops as enumerated in the preceding table, is presented in the following table by groups of counties for the seven years, with the annual average for the period :

Districts.	1888.	1887.	1886.	1885.	1884.	1883.	1882.	Average 1882-8.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Lake Erie.....	958,486	932,076	920,626	919,395	899,503	918.837	851,782	914,386
Lake Huron ..	801,218	781,833	772,120	762,718	743,322	790,126	710,573	765,987
Georgian Bay..	690,243	656,184	647,156	646,713	631,844	669,732	637,064	654,134
West Midland.	1,489,263	1,455,376	1,426,069	1,447,747	1,396,151	1,491,763	1,414,673	1,445,863
Lake Ontario..	1,635,315	1,609,981	1,597,507	1,577,546	1,577,521	1,640,591	1,556,106	1,599,224
St. L. & Ottawa	1,402,502	1,371,322	1,396,090	1,368,026	1,340,922	1,376,117	1,334,410	1,369,913
East Midland..	551,102	539,460	562,249	545,180	534,780	568,463	556,886	551,160
Nort'n Districts	88,221	82,852	81,464	83,118	79,915	86,994	. 63,729	80,899
The Province..	7,616,350	7,429,084	7,403,281	7,350,443	7,203,958	7,542,623	7,125,223	7,381,566

It will be observed that there is a general increase in every group compared with 1887, while only the East Midland group falls slightly below the annual average.

AREA IN PASTURE.—The acreage of cleared land devoted to pasture is shown by county groups in the following table, together with the rate per 1,000 acres in 1888. In the figures for the three years 1884-6 is included a portion of "bush" pasture, while the schedule of 1887 and 1888 was amended so as to include cleared land only.

Districts.	1888.	1887.	1886.	1885.	1884.	Rate per 1,000 acres cleared in 1888.
	Acres.	Acres.	Acres.	Acres.	Acres.	
Lake Erie	239,330	240,586	357,906	348,323	309,696	179.3
Lake Huron	307,879	296,316	355,981	327,942	328,101	244.7
Georgian Bay	213,925	204,903	230,088	214,957	212,444	212.1
West Midland	504,840	512,349	607,906	576,195	570,833	225.9
Lake Ontario.......................	406,620	404,893	465,587	453,066	438,011	178.3
St. Lawrence and Ottawa..........	665,139	667,034	791,014	765,263	724,344	296.2
East Midland	179,823	186,850	200,968	208,254	195,076	217.5
Northern Districts	18,048	16,008	16,871	17.199	16.481	153.1
The Province	2,535,604	2,528,939	3,026,321	2,911,199	2,794,986	224.2

It will thus appear that, though decreases are observable in several groups as compared with 1887, there is for the province a slight increase in pasturage. The highest rate devoted to grazing is reached in the St. Lawrence and Ottawa group, where it is nearly thirty per cent. of the cleared land. Naturally the rate is lowest in the Northern Districts, where it is a little above fifteen per cent.

PROPORTIONAL AREA IN CROPS.—The rate per 1,000 acres of cleared land may be taken as the measure of density to enable us to ascertain the distribution of the various crop areas. The following table shows this rate by groups of counties and the province for the staple field crops in 1887 and 1888, with the annual average for the seven years 1882-8 :

Districts.		Fall Wheat.	Spring Wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buckwheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzels.	Carrots.	Turnips.	Total.
Lake Erie....	1888	164.7	4.4	30.3	137.2	10.3	52.8	81.2	6.9	11.7	203.1	11.5	1.3	.7	2.2	718.3
	1887	168.8	8.3	27.2	130.9	8.1	60.5	66.3	7.7	11.1	206.2	11.3	1.0	.6	1.7	709.7
	1882-8	178.3	9.2	29.6	125.7	9.1	44.5	74.4	7.9	11.5	211.1	13.1	1.0	.5	1.6	717.5
Lake Huron..	1888	106.5	8.9	55.5	167.6	.8	69.9	9.5	.6	.4	193.3	10.3	2 1	.8	10.5	636.7
	1887	124.3	23.2	50.4	149.7	.5	73.9	6.3	.8	.5	195.2	9.6	1.8	.7	10.4	647.3
	1882-8	132.8	34.9	51.7	145.6	.8	65.5	8.3	.8	.5	192.9	11.2	1.9	.9	10.7	658.5
Georgian Bay	1888	72.5	49.7	62.6	181.3	2.8	82.5	1.9	.5	.2	201.9	13.6	.8	1.0	13.1	684.4
	1887	73.8	66.2	58.6	159.4	1.9	79.1	1.2	.8	.2	194.1	12.2	1.0	1.0	13.1	662.6
	1882-8	85.2	82.3	56.1	150.1	2.9	78.7	1.2	.7	.2	193.4	14.3	1.0	1.2	12.5	679.8
West Midland	1888	105.8	13.2	70.8	175.3	2.5	68.1	15.0	.8	.3	181.9	11.8	3.3	1.1	16.5	666.4
	1887	120.1	26.8	59.7	157.8	1.9	67.3	10.3	1.2	.3	181.5	10.9	2.7	.9	15.6	657 0
	1882-8	125.6	39.9	59.9	148.8	2.3	59.3	12.8	1.1	.6	186.4	12.5	2.6	1.0	15.9	668.7
Lake Ontario.	1888	57.5	48.5	160.9	138.5	12.5	72.0	15.5	7.9	.8	170.0	14.3	2.5	1.4	14.6	716.9
	1887	67.6	61.5	136.9	127.9	9.7	78.0	11.1	7.5	.6	180.3	12.7	1.9	1.0	13.7	710.4
	1882-8	75.1	75.5	131.2	123.4	15.1	65.3	13.0	6.7	1.0	181.9	14.2	2.2	1.3	12.6	718.5
St. Lawrence and Ottawa	1888	3.6	44.8	44.1	185.6	8.4	36.0	10.2	10.0	1.4	260.2	16.7	.7	.8	2.0	624.5
	1887	4.1	51.7	39.3	178.5	7.3	40.9	6.6	11.9	1.1	260.5	15.9	.7	.6	1.7	620.8
	1882-8	8.5	55.4	45.5	173.6	17.1	44.7	8.2	13.0	1.5	252.4	18.2	.8	.7	1.7	641.3
East Midland	1888	28.2	65.4	116.3	154.3	15.4	59.1	10.3	5.4	.7	184.9	15.1	1.8	1.2	8.6	666.7
	1887	30.1	76.6	102.7	150.4	15.5	69.9	6.7	7.3	.5	193.4	13.7	1.6	1.0	7.7	677.1
	1882-8	34.7	96.4	108.4	142.1	24.6	64.2	8.5	6.6	.7	191.4	15.4	1.3	1.0	6.8	702.1
Northern Districts...	1888	7.6	50.2	12.6	178.7	7.6	74.0	3.4	3.0	.9	365.9	25.2	.6	1.2	17.4	748.3
	1887	4.7	59.6	14.2	168.7	4.5	72.5	2.2	3.5	.2	381.2	25.4	1.8	1.3	18.7	758.5
	1882-8	4.8	92.0	17.6	164.3	9.3	73.0	3.3	4.8	.6	380.3	26.7	.9	1.3	20.1	799.0
The Province.	1888	73.2	32.5	79.2	163 6	7.4	61.6	19.7	5.1	2.0	202.8	13.6	1.9	1.0	10.0	673.6
	1887	80.8	43.6	69.1	151.5	6.2	65.4	14.7	5.8	1.9	205.3	12.6	1.6	.8	9.5	668.8
	1882-8	87.7	54.5	70.1	145.2	10.2	58.8	17.3	5.8	2.1	204.9	14.4	1.6	.9	9.3	682.8

We find that for the province in 1888, out of each 1,000 acres cleared, 673.6 are under the crops indicated above, the highest proportion being reached in the Northern Districts, where we found the rate of pasture the least, and the lowest proportion in the St. Lawrence and Ottawa group, where the rate of pasture was the greatest. Hay and clover forms the largest item in any group, while oats comes next in every group except the Lake Erie counties, where the rate of fall wheat exceeds it by twenty per cent. The Lake Erie group holds first place in the rates of fall wheat, corn and beans, but is lowest in spring wheat, oats and carrots. The Lake Huron group comes second in fall wheat, fourth in pease and last in rye and potatoes. The Georgian Bay group is first in pease, second in oats, third in spring wheat, fourth in fall wheat, barley and turnips, and lowest in corn, buckwheat and beans. The West Midland group is first in mangels, second in turnips, third in fall wheat and barley, and fourth in oats. The Lake Ontario group comes first in barley and carrots, second in rye, corn, buckwheat and mangels, third in pease and turnips, and equalled the province average of fall and spring wheat conjointly.

The St. Lawrence and Ottawa group is first in oats and buckwheat, second in potatoes, and lowest in fall wheat and turnips. The East Midland group comes first in spring wheat and rye, and second in barley. The Northern Districts come first in potatoes and turnips, second in spring wheat and pease, third in oats and lowest in barley. Of the 673.6 acres in crop, 202.8 acres, or thirty per cent., is in hay. If we include the rate in pasture (224.2) and in orchard (16.0) we will have in crop 913.8 acres, leaving a balance of 86.2 acres per 1,000 cleared as a margin for summer fallows, minor crops, etc.

FALL WHEAT.

The area of fall wheat in the province in 1888 was 71,206 acres less than that of the previous year. The acreage is now below that devoted to barley, and less than half of that given to oats. The outlook for fall wheat in the spring was very unpromising. The very dry summer of 1887 was followed by a dry autumn, and the little rain that fell in time to in any way promote the growth of crops was so quickly absorbed by the parched ground that its good effects were scarcely noticeable. In so far as concerned fall wheat, the cold weather came upon it while the plant was still small and delicate, and in every way ill-fitted to contend with the trials of the winter and spring seasons. Had the spring opened at all favorably the crop would likely have been a good one, despite the bad start in the fall. But the season was very untoward. April, instead of being made up of successive days of warm showers and bright sunshine, was, with the exception of a few days, cold, dry and bright. Chilling winds from the west and north-west made sad havoc with the wheat, which in most localities had come through the winter very promisingly. Wherever sheltered by timber the field invariably turned out well, and especially so on fallowed land. It wasnottill after fall wheat was out in head, in the month of June, that it experienced any rainfall and growing, sunny weather worth speaking of. The relief came too late to undo all the damage that had been done, and the crop, in most cases, grew up thin on the ground and headed out unevenly. This was particularly the case on poor and dry soils, and in exposed situations. These conditions were favorable to rust, which was complained of in a good many localities. Harvesting was generally about ten days later than the previous year. Except in the St. Lawrence and Ottawa and East Midland groups the crop did not reach an average in any part of the province, but the ripening season was so favorable that the grain matured well in respect of quality. It was plump and hard, and generally exceeded the standard weight. The following table shows the acreage and yield by county groups, and for the province in the years 1887 and 1888:

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie....................	219,836	3,765,875	17.1	221,748	3,545,985	16.0
Lake Huron.................	133,980	2,280,705	17.0	150,098	2,233,535	14.9
Georgian Bay	73,080	1,430,949	19.6	73,045	1,244,817	17.0
West Midland..............	236,339	3,829,210	16.2	266,054	4,196,280	15.6
Lake Ontario................	131,063	1,880,292	14.3	153,217	2,671,074	17.4
St. Lawrence and Ottawa....	8,036	151,412	18.8	9,088	131,469	14.5
East Midland................	23,304	479,113	20.6	23,975	404,861	16.9
Northern Districts...........	899	13,231	14.7	518	12,590	24.3
Totals......	826,537	13,830,787	16.7	897,743	14,440,611	16.1

The acreage of 1888 was the smallest in the seven years of which there is a record, and was 121,504 below that of the annual average. This decrease was divided between the districts as follows: Lake Erie, 7,357; Lake Huron, 20,488; Georgian Bay, 8,901; West Midland, 35,121; Lake Ontario, 36,083; St. Lawrence and Ottawa, 10,023; East Midland, 3,944. In the northern districts, however, a new and thinly settled portion of the province, where there is a trifling amount of fall wheat grown, the acreage of 1888 was greater than in past years. There was an increase of 35 acres in the Georgian Bay group compared with the previous year, but no other group of the older counties equalled its own figures for 1887. The total yield of fall wheat in 1888 was 13,830,787 bushels, being 609,824 less than in the previous year and 4,947,872 bushels below the average for the seven years 1882-8. The average yield per acre for the province was 16.7 bushels, which, although higher by .6 bushel than the average of 1887, fell 3.1 bushels below that of the seven years 1882-8. The St. Lawrence and Ottawa and East Midland were the only groups that equalled or exceeded their averages for the term of years. The poorest yield was in the Lake Ontario counties, where it was 6.1 bushels per acre less than its annual average. In the Northern Districts the yield was very small, being only 14.7 bushels, and the West Midland group was the third to go below the average of the province for the year.

LAKE ERIE COUNTIES.—Fall wheat did not turn out a full crop in this group of counties. The greatest injury resulted from unfavorable weather in winter and early spring. In several localities the ground was packed by snow in March, and in April the cold, unsettled weather caused alternate thawing and freezing, which thinned the fields at an alarming rate, especially on sandy soils. However, very little was reported as plowed up. In this connection several correspondents speak of the benefits of shelter for fall wheat, both as regards yield and quality, as well-manured, sheltered fields invariably came out in good condition. The wire-worm did a little damage in Elgin and Norfolk, and the Hessian fly was observed in Welland, but, generally speaking, the injury from insect pests was very slight. Though short in yield the crop was good in quality, the berry being plump and well up to the standard, except in a few cases noted in Essex and Haldimand, where some late sown wheat was somewhat rusted. There was a slight falling off in the acreage, and the average yield per acre was 17.1 bushels, or 1.7 bushel below the annual average for the group.

LAKE HURON COUNTIES.—The crop was reported as wintering well in Lambton and Bruce, but in Huron the plant is said to have entered the winter in a rather weak condition, owing to the dry fall. In all these counties the crop suffered from spring frosts, which caused heaving and consequent loss. A considerable acreage was plowed up, and much more would have been turned under were it not that many fields were "seeded down" with grass. The weather was favorable at cutting, and the grain was generally well housed, except in Bruce, where a rain coming before the crop could be got under shelter injured the straw to a considerable extent. A Lambton correspondent spoke of the Clawson variety as rusting badly, and rust was also reported in Huron. The wire-worm was at work in Bruce, and the Hessian fly made its appearance in Lambton and Huron. Threshing showed that the grain was of good quality, the berry being described as plump and bright. The area was 16,118 acres below that of the previous year, and the average yield per acre was 17 bushels, or 2.8 bushels below the annual average of the group.

GEORGIAN BAY COUNTIES.—Correspondents in this group speak of the trying effects of the spring upon the crop. There was rather less growth than usual in the fall in Simcoe, which left some fields rather "patchy," and in both counties there was much damage done, especially on heavy clay soils, by April frosts heaving out the plants. Notwithstanding these drawbacks there does not appear to have been much plowed up. Fall wheat seems to have been remarkably free from insect pests in both Grey and Simcoe, an occasional mention of rust is made only in the first-named county. In short, the two great factors in reducing the yield were the frosts of spring and the succeeding drouth. The grain threshed out exceedingly well for the amount of straw, and the sample was fully up to the standard in weight and in general quality. The acreage was almost identical with that of 1887, and the yield was 19.6 bushels per acre, or 1.4 bushel below the annual average of the group.

WEST MIDLAND COUNTIES.—There was a good deal of injury to fall wheat from winter killing in this group. Ice in winter and heavy, heaving frosts in spring left many bare spots in the fields, although there was very little mention made of any being plowed up. A Middlesex correspondent points a moral when he states that the crop "appears to have stood the winter and spring best on summer fallows, and fresh lands well under-drained." A heavy frost in May did much injury in Dufferin to what were regarded as promising fields. On some fields, more particularly in Perth, the drouth was very trying early in the summer. There was not much mention made of injury by insects; the Hessian fly appeared in Brant, but very little harm was done by it. Some fields in Middlesex, Oxford and Wellington were visited by rust, and there was some shrunken grain in consequence. However, most of the fall wheat proved to be of good quality at threshing, often running over weight. Owing to the general drouth the straw was rather on the short side. Cutting began on the 18th of July, but the bulk of the crop was harvested during the last week of the month, with the exception of Dufferin, which was about a week behind in the operation. There were harvested 29,715 acres less than in 1887. The yield per acre was only 16.2 bushels, being 19 per cent. less than the annual average for group, and half a bushel less than the average for the province for the year.

LAKE ONTARIO COUNTIES.—Winter-killing was very general in these counties. The season was most severe towards its close, as most of the damage was done by dry, frosty weather in March and April, and in several counties some very bare fields were plowed up. The greater part of the injury to the crop appears to have resulted from these spring frosts, as there was scarcely any mention of insect pests. In Halton and Peel some complaints were made of rust, but the injury from that cause was not general. As a rule the straw was short. The harvest was favorable, and the crop was housed in good condition, although the quality was uneven and the yield unsatisfactory in most cases. In Wentworth the sample was reported as very poor, while in Peel it was classed as A 1. In the other counties, as in fact in those already named, much depended upon the character of the soil and the shelter afforded. The question of shelter for fall wheat has been forcing itself upon agriculturists through the experience of the past few winters. It has been pointed out by correspondents that in exposed situations the crop this year was not only smaller in yield, but the sample was much poorer in quality. In the eastern half of this group, where but a small proportion of fall wheat is grown, the yield and general character of the grain was much better than in the western half, where a wide acreage is given to the crop. The average yield per acre was only 14.3 bushels on an acreage less by one-seventh than that reaped in 1887.

ST. LAWRENCE AND OTTAWA COUNTIES.—The acreage of fall wheat in these counties is comparatively small, hardly amounting to one-fourth of the area given to the crop in the average western Ontario county. Winter-killing has been the bane of the crop in the river counties, and this year made no exception, although the experience of the group was no worse than that of some districts where fall wheat is the staple crop. The drouth also told upon the crop, but there was no mention of rust or injurious insects. The straw was short, but the quality of the grain was good, the sample being plump and very presentable. Where the crop escaped winter-killing it turned out much better than spring wheat, and it is likely that the acreage of fall wheat will be increased in the future. The acreage was 1,052 acres less than in 1887. The average yield per acre for the group was 18.8 bushels, or .8 bushel above the annual average.

EAST MIDLAND COUNTIES.—Winter-killing was general in these counties, and a considerable quantity was plowed up in Victoria, although sheltered fields in that county were reported as looking well. The drouth had the effect of shortening the straw on the already well-thinned fields, but no injury from rust or insects was reported. The cut was secured in good condition, and the condition of the grain ranged from second class to first quality. In Hastings the fall wheat harvest was described as a very satisfactory one, and taking the group as a whole the crop was better spoken of after threshing than at any other time of the year. This district gave the largest yield for the year, averaging 20.6 bushels per acre, and slightly exceeding its annual average.

NORTHERN DISTRICTS.—The amount of fall wheat grown in the Northern Districts was insignificant. It was reported as of fair quality, but not equal to last year's crop. However, the experience with this grain has been such as to induce some to give it an increased acreage.

FROM THE MAY REPORT.

John Coulter, Mersea, Essex : Fall wheat is looking fair, but suffered from late cold winds. It did not suffer much by heaving, but the ground was too much packed by snow in the latter part of March. I have not heard of any being plowed up.

J. Wright, Dover, Kent : Wheat is in fair condition at present, although it has suffered from frosts and cold dry weather in April, especially on sandy or light soils. Owing to deep frost in the winter, and several heavy rains while the ground was frozen, several spots were filled with water, and ice was formed which killed out the wheat. Very little is plowed up.

Jabel Robinson, Southwold, Elgin : Fall wheat in this locality looks very poor. It looked well in March when the snow left, but the cold weather in April destroyed more than half in many fields. Highly manured and sheltered pieces are pretty good in all kinds of soil. None was injured by insects except by wire-worm in the fall, but some spots were totally killed by ice. I have only noticed one field plowed up, although there are many that ought to be.

D. Schooley, Bertie, Welland : Wheat is looking pretty fair. It is best on black muck and gravelly soil. It was injured about one-fourth by ice and dry, cold winds this spring, but very little by insects. There has been none plowed up, nor is there likely to be any.

J. Dallas, Bosanquet, Lambton : Fall wheat wintered fairly well. There was no injury from frost or snow up to the middle of April, but it got badly thinned out since on account of continuous cold, dry weather, which damaged it one-third at least. Considerable has been plowed up and sown into barley. The wire-worm injured some fields badly.

John Scott, Howick, Huron : Owing to the extreme drouth of last fall the plant was very weakly set in. The winter being favorable it came out all right in the spring, but the freezing and thawing and cold weather up to the last week of April left the plant very weak indeed. On low land where the water lay in the spring the plant seems to be in the best condition. Wheat suffered no injury from snow, ice or rain, but a great deal of damage was done by frost in spring. There was no damage by worms or insects. There was a great deal of plowing up done in early spring, and quite a number are now sorry for doing so, as the plant is in a better condition than they expected to see it.

John Douglass, Arran, Bruce : The fall wheat in this section is looking very sickly on low mucky and undrained lands, but is fair on high clay lands. The wheat had not been injured during the winter, and looked well when the snow went off, but continued frost and cold weather heaved it. Very little was plowed up, as a great many fields had been seeded to grass and clover.

John Cameron, Holland, Grey : The cold spell the latter part of April was very hard on fall wheat. It is best on light land well summer fallowed and manured. A considerable quantity of it was heaved out and perished, especially on heavy clay soils, owing to the severe night frosts in April. Very little has been plowed up.

John Darby, Vespra, Simcoe : There are a few good crops on fallow, but they are the exceptions. It is generally patchy, and on stubble land is very backward, on account of getting so little growth last fall. Not much has been killed except around the fences where the drifts have been deep.

W. D. Stanley, Biddulph, Middlesex : Fall wheat stood the winter fine, but the cold spring and hard frosts have done great damage, so much so as to spoil a great many fields that promised well in the early spring. It appears to have stood the winter and spring best on summer fallows and fresh lands well underdrained. It was injured chiefly by spring frosts and suffered from want of rain.

John Henderson, Nissouri E., Oxford : Fall wheat looked well when the snow went off, but the cold winds in April and frosts have hurt it badly. The half of it looks very patchy, but with fine growing weather it may be a fair crop yet. No worms or insects have hurt it, and there is very little of it plowed up.

A. Freeman, Burford, Brant : The general condition of fall wheat is very poor. The cold, backward spring, along with the ice, has made the wheat fields very spotted, with the bare spots the largest on all kinds of soils. There has been no injury by insects, nor has any been plowed up, as the farmers believe a half crop is better than none.

Isaac A. Merritt, Grimsby S., Lincoln : Fall wheat as a general thing is at present looking very poor. The best wheat is found on low or bottom lands with belts of forest for protection. The wheat seemed to come through the winter all right, and at the time the snow went off looked well, although a light top on account of dry weather last fall. It was injured to a great extent by freezing this spring, and by the month of April being too dry. Some wheat has been plowed up and resown with spring grain.

Robt. Inksetter, Beverley, Wentworth : I never saw the fall wheat look much worse than it does at present. It came out from under the snow, or rather ice, all right, but the cold dry weather and frosty nights of March and April did the mischief. Under the most favorable circumstances we can expect only a small crop.

D. James, Markham, York : The condition of fall wheat is from fair to good. It was somewhat injured on low lands, or lands principally adapted for barley and oats, but was good on sharp clayey soil. The cold dry weather of spring, with the unusually hard frosts, would injure it one-fifth ; not that one-fifth will be plowed up, but portions of a field will be but one-half and other portions three-fourths of a crop. Only a small quantity has been plowed up.

R. S. Webster, Scott, Ontario : In exposed places fall wheat was winter-killed, but it looks very fair where at all sheltered. It looks best in moderately light soil. I have not heard of any injury from worms or insects. On north and western slopes some fall wheat has been plowed up ; but the fact is only a small quantity is now sown compared with what was put in a few years ago.

H. A. Baker, Camden, Lennox and Addington : Fall wheat looks very bad. In has been badly winter-killed, and the continual dry weather is injuring it still further. Not much is sown however, and as farmers generally seed down with it there will not likely be much plowed up.

Ferguson Whiteside, Mariposa, Victoria : More than half the fall wheat is being plowed up and put into spring wheat and barley. It was much injured by continued cold north and west winds and frost after the snow melted. Sheltered fields which were well summer-fallowed look well, but clover fields sowed to fall wheat were too dry, and so are all a failure.

Alex. Smith, Dummer, Peterborough : Fall wheat, where the ground is drained naturally or artificially, looks well ; where it is low and damp it is thin and of small growth. On high and exposed parts it has suffered badly from frosty winds, but nowhere by snow, ice or insects. I do not know of any wheat having been plowed up.

FROM THE AUGUST REPORT.

Edward Nash, Mersea, Essex : Cutting began about the middle of July, and the crop was harvested in good condition. Wherever the wheat was sheltered it was a good crop, but in exposed situations it was no more than half a crop.

G. M. Baird, Harwich, Kent : Cutting began about the 15th of July. In the early part of the season the drouth hurt the crop, but about the beginning of June we had a fine rain with continuous showers, which improved it wonderfully, so that it will be about a two-thirds crop in this township. It was harvested in good shape and is of good quality.

Samuel Maccoll, Dunwich, Elgin : Harvesting fall wheat was unusually late this season, as it was not commenced till the 23rd of July, and is not yet (August 9th) housed by some. The spring and early part of the summer being cold and dry told materially against this crop. The wire-worm damaged some fields, but with all its drawbacks the yield will be a two-thirds crop, secured in good condition and of good quality.

George W. Newman, Walsingham, Norfolk : Fall wheat suffered from spring frosts. Cutting commenced about the 15th of July, and was secured generally in good condition. The berry is plump, and the yield is better than was expected earlier in the year.

Frederick Mehlenbacher, Rainham, Haldimand : Cuttiug began about the 25th of July. The crop suffered very much from drouth. That which came to maturity is a fair sample, but the late wheat was struck by rust and is shrunken in consequence.

H. H. Beam, Willoughby, Welland : Some began cutting on July 13th, but the bulk of the crop was cut in the week beginning July 16th. The crop was injured to a great extent by the extremely dry weather of May and early June. Some few pieces were slightly injured by the Hessian fly. It was secured in good condition and was of fair quality.

J. Dallas, Bosanquet, Lambton : Fall wheat cutting began on the 20th. It suffered severely in the spring from cold and drouth, and also from rust. We had favorable harvest weather, and it was secured in good condition. It is of fair quality.

G. E. Cresswell, Tuckersmith, Huron : Cutting began on the 19th of July. There was very little injury from drouth, The Hessian fly cut the straw near the ground, but the grain is very little injured. Late sown wheat was very much injured by rust. It was secured in the best possible condition. The quality of early sown is good, but late sown is shrunken in the berry.

W. G. Ritchie, Greenock, Bruce : Cutting commenced about the 23rd of July. The drouth hastened the maturity of the fall wheat, by which it suffered in the filling. The Hessian fly and the rust also damaged the crop. The crop as a whole has been housed in fair order, but owing to a heavy rain on the 3rd August the straw is pretty badly damaged.

R. Dunlop, Euphrasia, Grey : Cutting commenced about the 1st of August, but in some cases about two or three days sooner. The crop suffered a little from drouth, but I believe it was free from insect pests. It was secured in excellent condition and is of good quality.

Basil R. Rowe, Orillia, Simcoe : Cutting began about the 21st of July. It may have suffered a little from drouth, but certainly only a very little, but from nothing else except the cold spring. The quality is good, and it was secured in fine order as we had no rain at the time.

Wm. W. Revington, Biddulph, Middlesex : We commenced to cut fall wheat on the 20th of July, and barley was ready to be cut about the same time. Some wheat suffered from being winter-killed or heaved with frost. Rust also caused some damage. The crop is not more than an average, but is in medium condition. Scott and Democrat wheat did best. Mediterranean and Clawson rusted badly.

Thos. Baird, Blandford, Oxford : Fall wheat cutting began from the 15th to the 20th of July. The crop did not suffer much from drouth or insects. It has been secured in good condition for the most part. Late fields suffered from too much rain. The quality around this neighborhood is No. 1.

Thos. A. Good, Brantford, Brant: Cutting began about the 18th of July, and soon became pretty general. It did not suffer much from drouth since the 1st of June. The dry, cold weather of May hurt it a good deal. The Hessian fly appeared in a few places, and the straw was badly crinkled down where thin and short. It was harvested in very fair order, and is up to the average in quality.

John Campbell, Blanshard, Perth : Cutting commenced on the 23rd of July, and became general on the 25th. The crop suffered considerably from drouth in the early part of the season, but there was no damage of any sort from insect pests. Most of it was secured in fair condition. The quality is good, and the yield will be 15 or 18 bushels per acre.

C. Nicklin, Pilkington, Wellington : Fall wheat was harvested during the last week of July. There were no insect pests ; the crop was injured more by rust than anything else. Here and there there is a good field. There was splendid harvest weather, and the quality of the grain is medium.

Richard Blain, Dumfries N., Waterloo: Cutting was general about the 23rd of July. Fall wheat suffered very little from drouth or insect pests ; the deficiency in the yield is chiefly from winter-killing and cold weather in April and May. The crop was well secured, and the sample is good.

Robt. Dickson, Luther E., Dufferin : Cutting began about the 6th of August. The crop has suffered from drouth. The spring cleared up cold and dry. There was a heavy frost about the 15th of May, and the fields never recovered after that date. The crop was secured in good condition. The straw is light, but the grain is good.

A. Spears, Caistor, Lincoln : Cutting began about the 20th of July. The crop suffered from drouth in April and May, with cold north and north-west winds. It was secured in good order. The quality is good only in isolated sections.

George Hart, Saltfleet, Wentworth : Cutting began about the 25th of July. The crop suffered badly from the drouth of the spring. It has been secured in good condition. The quality, however, is very poor.

Colin Cameron, Nassagaweya, Halton : Cutting began about the 25th of July. The wheat suffered very little from drouth or insects, but very much from frost : not half a crop is left. It was very well secured, and the grain is good where it escaped winter-killing, but poor on exposed places.

F. J. Sleightholm, Toronto Gore, Peel : Cutting began on the 20th of July. The crop suffered very much from drouth during the early part of the season, and also from extreme cold in April and May. On low lands there was considerable rust, but no insect pests were observed. It was fairly well secured, although some was taken in damp. The quality is A 1.

Thos. Ramage, Etobicoke, York : Cutting commenced about the 25th of July. It suffered from drouth, but there was little or no injury from insects. The chief trouble was the cold spring and the late frosts. It was secured in good condition, and the quality is good.

Robt. H. Shipman, Brock, Ontario : The cutting of fall wheat began about the 18th of July. It has not suffered from drouth or insects, and was harvested in good condition. The quality is very good, but owing to winter-killing the acreage is limited.

Thos. Syer, Manvers, Durham : Fall wheat cutting commenced about the 20th of July. It stood the dry weather very well, and has not been injured by rust or insects. It has been housed in good condition. The quality of the grain is good, but the yield per acre will not be large. There is not much fall wheat grown in this township.

W. J. Westington, Hamilton, Northumberland : Cutting started about the 20th of July. Fall wheat did not suffer from drouth or from insects. It was secured in very good condition, and is of very good quality. Very little is grown in this section.

Wm. R. Dempsey, Ameliasburg, Prince Edward : It has been very dry here, but fall wheat has suffered the least of any crop from the drouth. Insects have done no damage. The crop was well secured. The straw is short but the quality of the grain is good. Very little is grown here.

Leonard Wager, Sheffield, Lennox and Addington : Cutting commenced on July 12th. The crop suffered by drouth. The straw was short and very thin on the ground. It was saved in good condition, and the sample is fairly good.

Joshua Knight, Storrington, Frontenac : Cutting commenced about July 20th. The crop suffered some from drouth, but no rust or insects injured it. The straw is short, but the berry is large and plump, and the crop was secured in good condition.

John Bennett, Roxborough, Stormont : Very little fall wheat is sown in this section, but what there is, is very good. The drouth did not seem to hurt it. It will yield from 25 to 30 bushels an acre.

P. A. Stewart, Lochiel, Glengarry : I am not aware of any fall wheat in this township. Some was grown here at one time, but it became so subject to winter-killing that its cultivation has been almost wholly discontinued. Where it survived the winter it was generally a better yield than spring wheat.

Edmond Byrne, Burgess, Lanark : Cutting began on the 20th July. The crop is very good, but very little has been sown in this township for the past two or three years on account of former failures.

Nelson Heaslip, Bexley, Victoria : Wheat was cut on the 20th of July. It suffered from drouth, and the straw is light and fine on this limestone soil. The crop was secured in excellent condition. The grain is rather bright and plump, but smaller than usual.

A. R. Kidd, Dummer, Peterborough : Fall wheat cutting began about the 15th of July. It has suffered considerably, especially on high lands. It was secured in good condition. The quality is about second.

Charles Anderson, Tyendinaga, Hastings : Cutting began about the middle of July. The crop was not injured by insects, but suffered from the drouth, especially on high land. It was quite thin on the ground and short in the straw. It was well secured, and the quality was excellent.

FROM THE NOVEMBER REPORT.

E. B. Tole, Harwich, Kent : Fall wheat generally is of good quality, although some late pieces are slightly shrunken from rust.

Samuel Maccoll, Dunwich, Elgin : Fall wheat is fully up to the standard in quality, weighing at our delivery point or tested scales from 60 to 64 pounds to the bushel.

B. B. Smart, Sarnia, Lambton : Some varieties are very good, but the Clawson is badly rusted around here.

Walter Hick, Goderich, Huron : Fall wheat is bright and plump in grain, but there is not much of it.

Hugh Murray, Bruce, Bruce : Fall wheat has turned out better than was expected. The grain is plump and good.

George Binnie, Glenelg, Grey : Fall wheat is of very good quality, being plump and full.

Basil R. Rowe, Orillia, Simcoe : The quality of fall wheat is good, and there is a large amount of grain considering the small quantity of straw.

Peter Stewart, Williams W., Middlesex : Fall wheat is not so good as last year. The first that ripened is good, but the late got caught with the rust and is shrunken.

Wm. Gerrie, Oxford N., Oxford : Fall wheat in general is of good quality, though in some places shrunken from rust.

H. Chisholm, Brantford, Brant: The quality of fall wheat is good, and as a general rule is over weight. My own weighs 64½ pounds per bushel ; it is the hybrid Mediterranean.

Archibald Dawson, Oakland, Brant : Fall wheat is shrunken and all straw is short. The army-worm did considerable damage in parts of the township, and so did the rose-bug. This is likely to prove the worst pest of any, as nothing seems to kill it.

George Leversage, Fullarton, Perth : Fall wheat is not a uniform crop. While some is plump and good, ranging from 60 to 62 pounds per bushel, in other cases the grain is very much shrunken.

Duncan McFarlane, Puslinch, Wellington : A large quantity of the fall wheat is very good, but some fields were rusted.

W. C. Smith, Wilmot, Waterloo : Fall wheat has turned out better than we expected Some fields have yielded 30 bushels to the acre, weighing 62 pounds per bushel. On some late sown fields, however, it was badly winter-killed, and yielded only 15 bushels per acre of poor quality.

John Cornelius, Garafraxa E., Dufferin : Fall wheat is good in quality, but it was considerably winter-killed, which makes the yield rather light.

Wm. McDonald, Esquesing, Halton : The greater part of the fall wheat is fully up to the average in quality. Some was badly winter-killed and rusted, and some of it is badly shrunken.

W. B. Terry, Gwillimbury N., York : The quality of fall wheat is generally good, but the quantity is short on account of winter-killing and freezing out in the spring.

Thos. Syer, Manvers, Durham : Fall wheat has been a fair crop wherever sown, but is not raised to any extent in this township.

J. C. Dunn, Brighton, Northumberland : The quality of fall wheat is fairly good, though not as good as that of 1887, the berry being smaller and not so good in color.

Luther Platt, Athol, Prince Edward : Fall wheat was plump and sound in quality.

R. J. Dunlop, Pittsburg, Frontenac : Fall wheat was very little sown last year, but what survived the winter was a very fair sample.

T. M. Robertson, Nepean, Carleton : Fall wheat was very little sown ; but it was a fair crop and of good quality.

James Dermott, Carden, Victoria : Fall wheat is a first-class sample, although some was winter-killed.

Thos. J. Thompson, Rawdon, Hastings : Fall wheat is a good sample as a rule, and a very satisfactory crop throughout.

THE NEW CROP OF FALL WHEAT.

Reports regarding the new sowing of fall wheat were very encouraging. In the western section of the province, where the crop is chiefly grown, about the usual acreage was sown, and as a rule the ground was in a good condition for the reception of seed, although in some cases rather on the dry side. Owing to the late harvest and drouth the seed was put in somewhat later than usual, and although rains came generously in the latter part of the fall the weather was so cold that there was hardly the average growth, and consequently some fields were looking thin and backward. In some western counties, more especially in the West Midland group, damage by the wire-worm, the white grub and the Hessian fly was reported, although not to any serious extent. In the eastern half of the province, where fall wheat has been but little grown, a very decided increase in the acreage is reported by many correspondents. The cold wet weather of October retarded the growth to a considerable extent; but while the crop was light of top it was almost always reported as very healthy and much more promising than that of the previous year.

FROM THE NOVEMBER REPORT.

James H. Brown, Colchester S., Essex: The acreage of new fall wheat is less than this year's crop. The condition of the ground at sowing was very unfavorable, as it was too dry to germinate the seed. A few fields that were sown just before the rain came look very well, but on the whole the crop is in a very backward state on account of the dry, cold weather.

F. B. Stewart, Raleigh, Kent: There is a larger acreage of fall wheat. It was very dry early in the fall, and both plowing and seeding were delayed in consequence. There were copious rains at intervals later on, but fully one-fourth was put in later than usual. The crop is now looking splendid.

John Haggan, Malahide, Elgin: The acreage of fall wheat is about the same as last year. The ground generally was in good condition, but on account of the dry, cold weather it is very backward, and is not looking very promising.

James Morrison, Walsingham, Norfolk: There is about as much wheat sown as last season. The ground was in good condition except on hard clay, which was rough at seeding time. The crop looks well; there is no injury by fly or other insect.

Guye Culver, Rainham, Haldimand: About the same amount of fall wheat has been sown as last season. The ground was in good condition at seeding time, and wheat never came up better. It looks well, although October has been almost too wet for low lands.

John A. Law, Stamford, Welland: The acreage of fall wheat is about the same as last year. The ground was in good condition at seeding time, and the present appearance is good. No Hessian fly or other insect has been reported.

Robt. Montgomery, Enniskillen, Lambton: The acreage of fall wheat is about the same as last year. The ground was in good order when sown, and the prospects are excellent at present. There has been no injury by Hessian fly or other insect.

John C. Morrison, McKillop, Huron: There is about the same acreage as last fall, but the ground was in better condition, being mostly summer-fallowed on pea-ground. The wheat looks well at present, but is not so thick as in some years

W. G. Ritchie, Greenock, Bruce: About the usual acreage of fall wheat has been put in. What was sown on summer fallow looks good, but pea-ground is backward, owing to the dryness of the ground at seeding time and the cold weather since.

George Binnie, Glenelg, Grey: There is a greater breadth of fall wheat sown this year than last—perhaps 10 per cent. more. Most of it was put in in good shape, but some of it was too late. Where sown early it looks well, and has made good growth, but late sown is scarcely up yet.

Basil R. Rowe, Orillia, Simcoe: A large area of fall wheat has been sown—considerably more than last fall. The ground was in good condition for seeding, although rather dry. The early sown looks very fair but the growth was long in starting, and was checked afterwards by cold weather.

Thos. Nangle, Biddulph, Middlesex: The acreage is about equal to last season. The ground was very hard and dry at the time of sowing. The growth has been slow, and the present appearance is backward. The wire-worm and the white grub have done a large amount of damage.

Stephen Hall, Blenheim, Oxford: About the usual area of fall wheat has been sown. The ground was very dry at seeding time, and the result is a small top. Portions of fields have been slightly injured by Hessian fly.

Henry Key, Oakland, Brant: I think we may safely say there is at least 20 per cent. less acreage sown than last year. The ground at the usual time of sowing was very dry, and this was the cause of many sowing at a later date than they otherwise would have done; but some fine rains came on later, and the crop has made a good start and is looking healthy.

Wm. Courtice, Fullarton, Perth: I think the acreage is rather less than last fall. At the time of sowing the ground was dry and hard and lumpy for the most part, but well prepared summer fallows went in in good order. The plants are not large, and there has been some injury done by the Hessian fly as well as by the common white grub.

Charles Nicklin, Pilkington, Wellington: There is about the same area as last fall in wheat. The ground was dry, but was worked up better than last year. The crop looks better than last year, there having been enough rain to keep it growing pretty well.

Levi Witmer, Waterloo, Waterloo: The ground was in fine condition at seeding, and the weather was quite favorable, but the plant has not made the same growth as in some former seasons, although it is healthy in appearance.

Jonathan Yarcoe, Amaranth, Dufferin: A little more fall wheat has been sown than last season, the fall growth being somewhat more favorable. Summer fallows were in great order this year. The crop is not so forward as we would wish, as on account of cold weather there has been very slow growth.

W. H. VanDuzer, Grimsby N., Lincoln; The fall wheat looks well at present, but there is not quite so much sown as last year. The ground was a little dry for early sowing, but the rain came in time to get it in soon enough. There is no appearance of Hessian fly yet.

George Hart, Saltfleet, Wentworth: The ground was in splendid condition, and timely rains brought the plant up. The mild weather has caused it to make good progress. A frost occurred about the 20th of September, which prevented the Hessian fly from putting in an appearance.

W. A. McCartney, Trafalgar, Halton: The ground was in good condition at sowing, and at present the crop has a good top and a good appearance generally.

John Sinclair, Chinguacousy, Peel: Fall wheat looks remarkably well. In fact, I never saw it looking better. The ground was in a fine tillable condition when seeded, and the weather has been favorable for rapid growth. A larger area is sown this year than last.

Simpson Rennie, Scarborough, York: The moist condition of the ground at seeding time was favorable, and the fields are looking well.

Robt. H. Shipman, Brock, Ontario: The ground was in fine condition at the time of seeding, and fall wheat now looks as well as usual. That sown early is in best condition.

Thos. Syer, Manvers, Durham: The acreage of fall wheat sown in this township is small, although larger than last year. The condition of the soil was far more favorable this year than last, there being plenty of rain to produce a good growth, and it looks very well, The kind sowed is chiefly Clawson.

J. C. Dunn, Brighton, Northumberland: I should think that fully one-third more acreage is sown in this township this fall. The condition of the soil at seeding was all that could be desired. The present appearance is fairly good, although there has been no great growth.

Luther Platt, Athol, Prince Edward: The acreage of fall wheat is somewhat in excess of last year. The soil was generally in good condition for seed, and the crop looks well at present.

E. R. Sills, Fredericksburg S., Lennox and Addington: Fall wheat occupies a greater area this year than last, and as it was put in in good condition its present appearance gives indications of an abundant crop.

R. J. Dunlop, Pittsburg, Frontenac: Fall wheat has been more extensively sown than usual, and at present looks remarkably well. There was an abundance of moisture to give it a start immediately after sowing, and much was on summer fallow.

J. Maitland, Montague, Lanark: More fall wheat has been sown this year than last. The ground was in good condition at seeding, and the crop has a fine appearance.

John Dermott, Carden, Victoria: About the same area of fall wheat is sown as last year. The ground was in first-class condition, and the present appearance is more forward than at the same time last year.

Wm. Armstrong, Otonabee, Peterborough: More fall wheat has been sown this year than last. The land was in fine condition for a seed bed. What was sown in the first week of September was good, but what was put in later was backward, as October was a cold month.

J. C. Hanley, Tyendinaga, Hastings: At least 25 per cent. more fall wheat has been sown. In most cases the land was in good condition at sowing, and the fields look well now.

SPRING WHEAT.

The condition of spring wheat in 1888 was more favorable than it has been for several years, and several correspondents voice the regret prevailing among farmers that there was not an increase in the acreage instead of a decrease of nearly one-fourth. The favorable condition of the soil at the time of seeding gave the young plant a good start, and the crop was almost entirely free from those fungus growths of smut and rust which are more likely to appear if the seeding season has been wet and backward. Very little injury was done by insects, the midge only having been mentioned, and that rarely. In the central and eastern portions of Ontario, where the bulk of the spring wheat area of the province is found, and where, too, the drouth was severest, the crop was reported as being much better than for many years. In the Lake Ontario group it was harvested in good condition, but in the river counties reports are general as to injury by frequent rains during harvesting. Like other cereals, spring wheat was affected by the summer drouth, but this was shown more in the shortness of straw than in the yield or quality of grain. In fact the sample was a good one, the berry as a rule being plump and very marketable. The following table shows the acreage and yield by county groups for 1887 and 1888 :

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie..................	5,822	102,558	17.6	10,841	114,438	10.6
Lake Huron..................	11,210	173,648	15.5	28,013	232,171	8.3
Georgian Bay...............	50,128	837,469	16.7	65,549	668,123	10.2
West Midland.	29,478	485,812	16.5	59,411	537,955	9.1
Lake Ontario....	110,580	2,203,519	19.9	139,339	1,675,723	12.0
St. Lawrence and Ottawa....	100,624	1,804,316	17.9	114,130	1,599,293	14.0
East Midland...............	54,092	741,597	13.7	61,031	687,347	11.3
Northern Districts..........	5,916	104,640	17.7	6,507	118,067	18.1
Totals..............	367,850	6,453,559	17.5	484,821	5,633,117	11.6

For the past three years there has been a rapid decrease in the acreage of spring wheat, so much so that the area given to the crop in 1888 was not one-half of that of 1885. The average yield per acre in 1887 was only 11.6 bushels, and in consequence the acreage shrank from 484,821 in that year to 367,850 in 1888. The greatest decrease in the area of spring wheat was observed in the west, as in the first four groups comprising the table the acreage fell from 163,814 in 1887 to 96,638 in 1888, a reduction of about 41 per cent. In none of the districts did the acreage exceed that of the previous year. The average yield of the province was 17.5 bushels per acre, compared with 15.7 bushels in the seven years 1882-8 ; and notwithstanding the decrease in the acreage the total yield exceeded that of 1887 by 820,442 bushels, although it falls short by 2,794,560 bushels of the annual average yield for the seven years 1882-8. The largest average yield per acre was reported in the Lake Ontario counties, being 19.9 bushels, or 2.4 bushels above average of the province, and 3.3 bushels above the annual average of the group. The Lake Erie counties, the Northern Districts, and the St. Lawrence and Ottawa group also exceeded the average of the province. The lowest average yield was in the East Midland group, being only 13.7 bushels, which is 1.1 bushel below its annual average.

FROM THE AUGUST REPORT.

A. Papineau, Rochester, Essex : Very little spring wheat is raised in this township ; what we have is pretty fair, with the exception of rust in some fields, caused by cool nights in low-lying lands. Spring wheat is not a profitable crop in Essex.

Dugald Campbell, Dunwich, Elgin : Spring wheat is in fair condition, and we are commencing to cut. White Russian gives the best promise. There was no injury from drouth, and very little from insects, but the crop was slightly rusted.

John H. Houser, Canborough, Haldimand : I never saw spring wheat look better. The Russian variety takes the lead, but all kinds look well. There is no progress towards harvesting yet. There has been no injury, except that the straw is rusted in a few places.

Wm. S. Howell, Sombra, Lambton : Spring wheat is said to be good—in better condition than for several years back —but very little has been sown, owing to the failure that has attended it for some time. I have heard some complaints of rust, and of lodged grain.

John Burgess, Turnberry, Huron : Spring wheat is in good condition. Very little is grown, but of the three or four varieties sown Blue Stem and White Russian promise best, though all look well. Cutting is just beginning. The only damage is from drouth.

James Tolton, Brant, Bruce : What little spring wheat is grown looks well. The only variety sown in this locality is the Colorado. At this date (Aug. 9), the crop is about half cut. It was injured about 25 per cent. by drouth ; no perceptible injury from rust or insects.

R. Dunlop, Euphrasia, Grey: On good rich land there will be pretty fair grain, with short straw. Redfern appears to withstand the drouth well, but upon heavy clay or poor land all kinds will be light. The first sowing is now ready for harvesting. There has been great injury from drouth, but I believe the crop has been pretty free from rust or insects.

Basil R. Rowe, Orillia, Simcoe: The quality of spring wheat is tolerably good. Defiance, White Fife and White Russian all do well. The drouth has reduced the quantity one-half, but there was no injury from rust or insects.

Wm. Watcher, Dorchester N., Middlesex: Spring wheat is a fair crop. It is all cut, but not housed. California Defiance is the leading variety in this section. It was injured somewhat by rust on low ground.

E. H. Brown, Nissouri E, Oxford: The appearance of spring wheat is very good. The crop stands heavy, and, but for rust, would give a large yield. The French Imperial is chiefly grown here. None has yet been cut. There was no injury save from rust which hurt the crop badly.

Thos. Steele, Downie, Perth: Spring wheat has been cut, but is not all in yet. It will be a fine crop, and the sample is very fair. Redfern is most largely sown here. There was very little midge, but rust struck it before it was fairly ripe.

Geo. Cushing, Arthur, Wellington: The condition of spring wheat is very good. The drouth has hurt it to some extent, but there has been but little injury from insects. The Goose is the principal kind sown in this section.

Christian T. Groh, Waterloo, Waterloo: Spring wheat is a better crop this year than for years. The principal sort grown in this locality is the Scotch variety or Fife. The straw is somewhat rusted, but there are no complaints of insect pests.

James Freebury, Mono, Dufferin: Spring wheat is short in the straw, and thin on the ground. A bearded variety, known as Michigan Amber, is the favorite variety here. The crop has suffered greatly from drouth on all high land.

J. Husband, Trafalgar, Halton: Spring wheat is in good condition. White Russian and Goose wheat are the only kinds grown here that I am aware of, and I think the White Russian is the better. There has been no injury of any account.

John Campbell, Chinguacousy, Peel: Spring wheat looks very promising. The Wild Goose variety is chiefly grown here. I got two bushels of South Sea Island wheat four years ago from Iowa, U.S., which has done well wherever sown. It generally yields about 20 bushels an acre, and it has been sown by a good many here for the last two years.

J. D. Evans, Etobicoke, York: Spring wheat is an excellent crop. Wild Goose yields the best, but it is inferior in quality. The White Russian seems to be the best. Some fields have been damaged by the rust, but otherwise the crop has been uninjured.

R. S. Webster, Scott, Ontario: Spring wheat is a light crop, but the sample is good. There was very little rust. I think the acreage was considerably reduced from last year. White Russian, Club, and White Fife promise best. Harvesting is well under way, and with favorable weather all will be housed by the 20th of August. The drouth caused light straw, but there was no damage by insects.

Thos. Syer, Manvers, Durham: Spring wheat, I think, is the best crop of the season It looks to be a nice, even crop, although the straw is somewhat short. Cutting has just about commenced (Aug. 10), but there has been far less sown than usual. White Russian and Colorado seem to be the varieties mostly sown here. I have seen some fields of Golden Drop that looked very fine.

E. J. Honey, Percy, Northumberland: The straw is very short owing to the drouth, but the heads are well filled. The bearded varieties have done best, as they grow a little more straw. The crop was very much injured by the drouth, but there was no injury by rust or insects. A lot of the straw is so short that it cannot be bound.

Samuel N. Smith, Sophiasburg, Prince Edward: Spring wheat is almost a complete failure, only a few very early lots were worth harvesting. The drouth was the principal cause of complaint. Redfern and Fife wheat did better than could be expected after the continual dry season. Very many farmers do not sow any spring wheat now.

Wm. J. Hinchey, Sheffield, Addington: Spring wheat is of average quality. White Russian and Fife are most sown. There will be only about half an average crop on account of the drouth.

R. J. Spoor, Wolfe Island, Frontenac: Spring wheat is of a good quality and an average crop for what has been sown, but there is very little grown here now. The crop has not been doing well here the last few years. Although this was once a good wheat section, there is just enough grown now for home consumption.

Ambrose Derbyshire, Bastard, Leeds and Grenville: Not much spring wheat is grown in this township, although here and there a piece has been secured in good condition. Scotch and Manitoba varieties are principally sown. The grain is all harvested. It has not been damaged materially either by rust or insect. The drouth affected it on high lands. The straw will be short, and it ripened too soon.

Jas. Collison, Matilda, Dundas: Spring wheat is well filled, but not very heavy on the ground. The drouth did injury, but the crop was not hurt by any other cause. Some pieces were damaged by a hail storm on the first of July.

D. B. McMillan, Lochiel, Glengarry: Spring wheat is in very good condition. White Russian gives the best promise in this township. The drouth has done but little injury to spring wheat.

Wm. Allison, Hawkesbury E., Prescott : The straw is short but well headed and well filled. Redfern and White Russian are most in favor here. Some commenced cutting on the 6th of August, but the bulk of the crop will not be fit to cut before the 15th. There has been no rust or injury from insects. The straw is short in the early sown on account of drouth.

Henry Armstrong, Clarence, Russell : Spring wheat is very good. It would have been a splendid crop but for the extremely dry weather.

T. M. Robertson, Nepean, Carleton : Spring wheat is very short in the straw, and on light land badly injured by drouth ; on low land it will be a fair crop. White Russian and Scotch wheat are about the best. There has been no injury except from drouth.

Wm. Hawkins, Stafford, Renfrew : The straw is short, but the head is plump and well filled, although the crop is rather thin. White Fife and Russian wheat are the most successful varieties here. The dry summer will give us a very small quantity of straw.

Gavin Hamilton. Ramsay, Lanark : Spring wheat is excellent on good land, but on light dry soils it is almost a failure. All varieties give fair promise, but Scotch has the preference. There has been no injury from rust or insects. The grain is large and plump, and the straw clear and clean. However, the drouth has injured the crop, and the yield will be reduced in consequence.

John Campbell, jr., Mariposa, Victoria : The condition of spring wheat is the best in many years. Colorado and Fife wheat are the kinds chiefly sown here. The crop is slightly rusted in low lying fields.

J. M. Drummond, Otonabee, Peterborough : The crop is in fair condition. The straw is very short, but the heads are medium and the grain is fairly plump. Colorado is about a week earlier than White Russian or Manitoba. Fife is longer in the straw and is not apt to rust, but it is very open in the head and shells badly. The drouth has caused the crop to be rather thin.

S. Kettle, Glamorgan, Haliburton : Previous to the rains a week ago spring wheat was suffering from drouth and was ripening in spots. Showers, however, have made it fill, and it now promises to be a good crop. Russian and White Fife are the only varieties grown here. There is no word of rust or insect injury.

Charles Anderson, Tyendinaga, Hastings : Spring wheat is a very light crop, thin on the ground, short in straw, and small in the heads, but the grain is of good quality. White Russian, Fife and Lost Nation are the kinds principally sown. There was much injury from drouth, but none from rust or insects.

H. W. Gill, Watt, Muskoka : The straw is short and well headed. White Russian gives the best promise here. In some parts the crop was injured by drouth.

FROM THE NOVEMBER REPORT.

John H. Best, Walpole, Haldimand : Spring wheat is better than it has been for several years, but very little has been sown.

James Watson, Moore, Lambton : Spring wheat on new land was a fair crop ; on old land, unless where well cultivated, it was rather poor.

John Scott, Howick, Huron : Spring wheat grew very well, and is the best crop we have had for many years. It ripened nicely, and is a good, plump sample. There was very little sown in this township owing to failure in the past four years.

John Craig, Amabel, Bruce : Spring wheat is a pretty fair crop, slightly injured by rust.

Arch. Brown, Keppel, Grey : Spring wheat was light owing to the poor weather in the spring and the extremely dry summer, but the quality was good and the yield moderate.

Basil R. Rowe. Orillia, Simcoe : The quality of spring wheat is good, but there is very little grain and not much straw.

Adam H. Secord, Dorchester N., Middlesex : Spring wheat is a good average sample, but is not much grown in these parts.

Wm. Courtice, Fullarton, Perth : What little spring wheat is raised here is not very good, except Goose, which did pretty well. But Goose wheat is—Goose wheat.

Albert Fyfe, Minto, Wellington : The yield is the best we have had for a great number of years, and I expect to see more of it sown next year.

John Campbell, Chinguacousy, Peel : Spring wheat is the best we have had for three or four years.

W. B. Terry, Gwillimbury N., York : Spring wheat is above the average both in quantity and quality, but little is raised in the township.

Wm. Spence, Reach, Ontario : In some parts of the township extra good yields are reported—in some localities as high as 35 bushels to the acre.

Thos. Syer, Manvers, Durham : Spring wheat has been a very good crop, but there was not as much sown this year as usual. White Fife, White Russian and Colorado are the kinds chiefly sown here.

George Kennedy, sr., Haldimand, Northumberland : Spring wheat is very short in the straw, but the grain is of good quality, and threshed out better than was at one time expected.

Luther Platt, Athol, Prince Edward : Spring wheat is fully up to the average in sample, but is poor in yield.

C. R. Allison, Fredericksburg S., Lennox and Addington : Spring wheat was of very good quality, but the straw was short on account of continued drouth in the early part of the season.

R. J. Dunlop, Pittsburg, Frontenac: The yield of spring wheat is light, but the quality is generally good, although variable.

Gideon Fairbairn, Edwardsburg, Leeds and Grenville: Spring wheat was a very good yield, somewhat damaged by the wet harvest.

P. H. McDermid, Cornwall, Stormont: Spring wheat is good, excepting some late fields which were injured by rain, although not to a large extent.

F. W. Langrell, Alfred, Prescott: Spring wheat is very good, but it was injured to some extent at harvesting by the unusual rain fall.

T. M. Robertson, Nepean, Carleton: Spring wheat is a good crop and the grain is first class where saved, but it was somewhat injured by rain when in the stook.

John Whelan, Brudenell and Lynedoch, Renfrew: Spring wheat is good in grain, but the yield is very light, not being half an average crop.

Wm. Paterson, Ramsay, Lanark: Spring wheat is good in quality and fair in quantity, but owing to heavy rains in the last half of the harvest it was slightly damaged.

Wm. Armstrong, Otonabee, Peterborough: The berry is plump, but the straw is short and the crop is light.

Alex. Southworth, Cardiff, Haliburton: Spring wheat is about an average yield but of good quality.

A. Wiancko, Morrison, Muskoka: Spring wheat was very light on account of midge, but whatever was grown was good.

BARLEY.

Reports were very uniform from all parts of the province that barley was about an average in yield and quality, and where in early situations the crop was secured before rain came the sample was all that could be desired. Not many farmers, however, were fortunate enough to forestall the rainy season with their barley harvest, and a large proportion of the crop, in consequence, had to run the gauntlet of the "catching" weather which set in early in August. This was more or less colored; some of it but slightly, where it was protected in the shock and the exposure was not prolonged, and that which was injured the most is expected in most cases to grade not worse than No. 2 on account of the otherwise good quality of the grain. Individual yields are reported as high as 50 bushels per acre, and reports of 35 to 40 bushels are not uncommon. The crop was heavier and was better saved in the western peninsula than in the group of counties bordering on Lake Ontario, where the principal barley area is situated. The dry weather during the growing season caused barley generally to be short in the straw, and the harvesting of it in a loose condition in consequence was more tedious than otherwise. The grain threshed out better in yield than was expected at harvesting, and was plump and of first-class quality in every other respect than that of color—the greatest factor in determining the marketable value of barley. A great deal of barley will be fed during the winter, owing to the shortage of the fodder crops, and as the grain is in many cases overweight it will be splendid for that purpose. In the following table the acreage and yield for 1887 and 1888 are compared by county groups:

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie....	40,419	1,243,627	30.8	35,742	719,372	20.1
Lake Huron...............	69,858	2,026,067	29.0	60,932	1,425,914	23.4
Georgian Bay..............	63,140	1,401,708	22.2	58,050	1,308,045	22.5
West Midland.............	158,314	4,832,267	30.5	132,247	3,148,152	23.8
Lake Ontario..............	367,101	9,647,764	26.3	310,215	6,997,828	22.6
St. Lawrence and Ottawa...	98,958	2,171,491	21.9	86,740	1,875,608	21.6
East Midland..............	96,162	2,009,730	20.9	81,873	1,623,751	19.8
Northern Districts	1,480	33,915	22.9	1,547	36,160	23.4
Totals..............	895,432	23,366,569	26.1	767,346	17,134,830	22.3

The area given to the cultivation of barley now exceeds that of fall wheat by 68,895 acres. There were 895,432 acres sown to barley in 1888, being 128,086 more than in the previous year, and 137,907 more than the average for the seven years 1882-8. Compared with 1887 there was an increase in every group except the Northern Districts, where the acreage is merely nominal. The average yield per acre was 26.1 bushels, which, while 3.8 bushels more than that of the previous year was identical with the average for the seven years 1882-8. The Lake Erie counties led with an average yield of 30.8 bushels, the West Midland came next with 30.5 bushels, the Lake Huron group reported 29 bushels, and the Lake Ontario counties slightly exceeded the average for the year. The poorest yield was experienced in the East Midland counties, and the remaining three groups were considerably below the average. The total yield was larger than that of the previous year by 6,231,739 bushels, and exceeded the annual average yield of the seven years by 3,600,133 bushels.

FROM THE AUGUST REPORT.

A. Papineau, Rochester, Essex: Barley was not sown in large quantities, but what there is is good and heavy, with the exception that the color was darkened by occasional showers.

E. B. Tole, Harwich, Kent: Barley is a good average yield; mine threshed 45 bushels to the acre. It was damaged by showers in many places before it was cut, otherwise the grain is good. As we generally feed our barley to the stock, the matter of color does not affect it much.

J. McLean, Woodhouse, Norfolk: There is a good yield of barley. That harvested in this locality before the heavy rains is bright, but the remainder is somewhat discolored. It has been harvested in good condition as a rule.

Wm. Parker, Walpole, Haldimand: The yield is over an average, but it is stained, very little being bright. A good deal of it is still in the shook, and the frequent rains we are having will make it dark. The general condition in which it was harvested may be said to be good.

W. S. Howell, Sombra, Lambton: Barley is a heavy crop, full-headed and of good sized grain, and will yield above an average. The color will likely be fair, as a great part of it was harvested without rain, although some got caught. Barley will be fed quite extensively unless the price goes up.

John Wright, Goderich, Huron: This crop has come out pretty fair as to yield, but excepting small quantities it has been discolored by the rain which came at an inopportune time. However, it has been harvested generally in good condition.

Hugh Murray, Bruce, Bruce: There is a poor yield of barley, owing to continued dry weather. The color is poor as a general thing, as the rain came on just as harvesting had commenced, and showery weather has interfered with the harvesting, but the bulk of the crop will be put in in good condition.

A. Gifford, St. Vincent, Grey: Barley so far as harvested is very short in the straw, bright in color, and will yield a little under the average of good heavy grain—probably 20 bushels to the acre, except on hard clay ground where the crop is very poor.

Chas. Cross, Innisfil, Simcoe: Barley is very short in the straw, and rather thin on the ground, but fairly well filled. The color is not so good as last year. It ripened so irregularly that some was too ripe before the field was fit to cut. It has been harvested in good condition.

Wm. Wright, McGillivray, Middlesex: Barley is a good crop. I think it will average 30 bushels to the acre in this locality. The color is a little off; it is not so bright as last year, but the grain is larger and heavier. It was harvested in fair condition generally, although some of the late fields have been subjected to quite a few showers.

E. H. Brown, Nissouri E., Oxford: The yield is far above the average of other years. The color will not be good, as we had very heavy rains, and it will all color very badly. It was harvested in a very fair condition.

Thos. A. Good, Brantford, Brant: Barley is about an average—say 25 bushels to the acre. The color is not very bad, but not quite as good as last year. Some will be pretty bad from heavy rains on the 3rd and 4th instant. Most of it has been harvested in fair order, although there is a good deal to get in yet. More barley has been sown in this section this year than usual.

John Campbell, Blanshard, Perth: Barley is a fair crop on the whole. In some instances it was secured in good order, but the bulk was exposed to the heavy rains. It has been materially injured in color.

George Cushing, Arthur, Wellington: There are many contradictory reports of the barley crop. Some is real good, and some is very poor. On the whole we think the average will be from 15 to 20 bushels per acre. The early barley will be bright, but the late has been discolored by rain. It was harvested in good condition.

Thos. Mitchell, Dumfries North, Waterloo: Barley is expected to yield well, but the great bulk of the crop is discolored. It is mostly harvested in good condition, but a lot got caught in the big storm we had on the night of the 3rd August.

Matthew Varcoe, Amaranth, Dufferin: We have only commenced to cut. The color will be dark, but the grain will be plump.

Robert Inksetter, Beverley, Wentworth : Barley is a good crop, but considerably discolored. It was got in in fair condition, and will yield about 35 bushels an acre.

Colin Cameron. Nassagaweya, Halton : The yield will be from 25 to 35 bushels per acre. The color is somewhat darker than last year, caused by a shower and a few nights of heavy dew when ripe. Most of it was saved in a good condition.

John Russell, Chinguacousy, Peel : Barley is an average crop, and has been harvested in fine condition. The color is bright, but the bulk of it will grade good No. 2. It will yield about 22 bushels an acre.

Thos. Teasdale, Vaughan, York : Barley will yield middling well, although short in straw. A good deal of it will be discolored. However, it has been harvested in fairly good condition, and will be plump and heavy in the grain.

Robt. H. Shipman, Brock, Ontario : The yield of barley will be from 20 to 40 bushels per acre, according to the amount of *cultivation* used by the farmers. About 50 per cent. was housed without rain, and will be a very fine sample. The acreage is very large this year.

Robt. Hodge, Clarke, Durham : Barley is rather short in the straw, but is generally of very good plump grain. The color is bright. Early barley is in good condition, and late is a little discolored.

E. J. Honey, Percy, Northumberland : Barley is a very light crop, owing to the drouth. There is not half as much straw as usual. Some of the grain is plump and heavy, but there will be a lot of light barley in it. Some heads have no grain in them ; they seem to be blighted by the hot weather. Most of it has been harvested without rain, and the color will be good.

Samuel N. Smith, Sophiasburg, Prince Edward . A large acreage has been sown, but on the whole there will not be a greater crop. Many fields are a complete failure, and the best gave a very poor yield. All will be bright in color, will have good weight, and was harvested in good condition. Barley is the staple crop of Sophiasburg, and the failure will be felt very much here.

Robt. Metzler, Ernesttown, Lennox and Addington : Barley will not be more than half a crop. It suffered much from drouth. The grain is light, but it has a good color.

R. J. Dunlop, Pittsburg, Frontenac : The yield generally is very poor, but the color is bright and good. It was saved in first-class condition, and is splendid where the soil is suitable, but on high clay land it is hardly worth cutting, and will be a very small return for the acreage.

John B. Wilson, Leeds and Lansdowne Front, Leeds & Grenville : All grain is No. 1, except some barley that was colored by rain. However, most of it was saved before the rain came. I never saw grain so heavy as it is this year. I have seen some six-rowed barley weigh 54 pounds per bushel.

Wm. Kyle, Williamsburg, Dundas : The yield will be slightly under that of average years, but color is bright, and it was harvested in good condition, owing to the season being so very dry.

P. A. Stewart, Lochiel, Glengarry : There is a fair yield of barley of good color, and it must have been well harvested, as there was scarcely any rain during July or the first week of August. However, there is some late barley to cut yet.

John Scott, Goulbourn, Carleton : Barley made a good start, but the drouth started it too soon, and the grain will be light. It was harvested in good condition.

Thos. Jackson, Lanark, Lanark : The heads are very poorly filled and the grain is very light. The color is good, however, and the grain has been harvested in good condition.

Nelson Heaslip, Bexley, Victoria : Barley has been and is being harvested in prime condition. The color is first-class, but the yield will be small, as the straw was short and thin.

John Moloney, Douro, Peterborough : Barley has not been more than half an average crop. The berry will be a fair sample and the color will be extra bright. It was harvested in first-class condition, as the season was very dry during harvesting.

Charles Anderson, Tyendinaga, Hastings : The yield is very poor on account of the drouth. The color will be very good. It was harvested in good condition. Barley is the principal grain crop of this township.

A. H. Smith, Monck, Muskoka : Barley sown was short and light, and was discolored with rain. Late barley promises to be good, but is not ripe yet.

FROM THE NOVEMBER REPORT.

Arthur J. Arner, Gosfield, Essex : Barley was not secured in good condition in this locality. The growth was rank, and nearly the whole crop was lodged, rendering it difficult to gather. It was much discolored by the wet weather during harvest.

Dugald Campbell, Dunwich, Elgin : Barley is a good crop. The grain is plump, but in some cases slighthy colored.

John A. Law, Stamford, Welland : Barley is heavy in weight, but somewhat colored.

B. B. Smart, Sarnia, Lambton : Barley turned out pretty well to the acre, but more or less discolored.

John Kernighan, Colborne, Huron : Barley is a good crop, but most of it is slightly discolored. Drouth injured the straw about one-fifth, but the yield of grain was not affected.

M. L. Martin, Bruce, Bruce : Barley is a good crop, but it is badly colored.

Daniel Marshall, Keppel, Grey : Barley is a good sample, but some is badly colored by heavy rain during harvest.

Thos. Stokes, Vespra, Simcoe : Barley is good in weight, but somewhat discolored.

Alex. Smith, McGillivray, Middlesex: There was a large yield of barley, but part of it got rain and it is dark, but will make good feed.

Thos. Baird, Blandford, Oxford: Barley is a good average crop, but most of it has been discolored by the wet weather.

Henry Key, Oakland, Brant: Barley is a fair crop, although it was injured by the drouth. It was somewhat colored owing to some light showers after it was ripe.

Wm. Courtice, Fullarton, Perth: The quality of early barley that was drawn in before the rain was bright and good, but most of the crop had some rain and was dark, and late barley way badly shrunken.

Albert Fyfe, Minto, Wellington: Barley is very good. It is a little darker than last year, but heavier.

Christian T. Groh, Waterloo, Waterloo: Barley is one of the best crops in this locality, and has been mostly all secured without much rain; consequently the quality is very good.

Geo. Bailey, Malancthon, Dufferin: Barley is a good crop, but dark in color.

Robt. Inksetter, Beverly, Wentworth: Barley was heavy in the grain, but considerably colored.

John Marshall, Nassagaweya, Halton: Barley is good in weight, and about two-thirds of it is good in color.

John Sinclair, Chinguacousy, Peel: Barley is a good, plump sample, but in some localities it is considerably stained.

Wm. H. Proctor, King, York: Barley is very plump and heavy, but dark.

Joseph Picket, Uxbridge, Ontario: Barley is heavy in berry, but is slightly discolored. Not very much is first-class in color.

W. G. Rundle, Darlington, Durham: Barley was very short in the straw, but yielded better than was anticipated at harvest. The color along the front near the lake shore is dark, but further back the color is bright, and passes mostly for No. 1.

Walter Riddell, Hamilton, Northumberland: Barley is of medium quality. Much of it was darkened by showers during harvest.

W. R. Leavens, Hallowell, Prince Edward: Barley is of good weight, and good color, and exceeds last year's crop.

E. R. Sills, Fredericksburg S., Lennox & Addington: Barley, which is our main crop, received a serious check during the dry summer, and, although the yield is small, it is plump and bright.

R. J. Dunlop. Pittsburg, Frontenac: Barley is a light crop generally, but it will be bright and good in quality.

Gideon Fairbairn, Edwardsburg, Leeds and Grenville: Barley is of a good quality in general, although some of it is discolored.

D. B. McMillan, Lochiel, Glengarry: Very little barley is sown in this county, but what was grown would be called a fair crop.

Lewis Morton, Goulbourn, Carleton: Barley is a good crop and bright, where early sown, but some is rather small in the grain on account of drouth in the early part of the summer.

Wm. McGarry, Drummond, Lanark: Barley is good in grain, but considerably damaged by rain in harvesting.

Wm. Ramsay, Mariposa. Victoria: The most of the barley was good as to yield and weight, but only about No. 2 in color.

Wm. Armstrong, Otonabee, Peterborough: Barley is short in straw, and the grain is small and light, but most of it is well colored.

Thomas J. Thompson, Rawdon, Hastings: Barley is a good sample, but a very poor yield.

A. Wiancko, Morrison, Muskoka: Very little barley has been sown, but it is of excellent quality.

Wm. Jenkin, Perry, Parry Sound: Barley is a fair crop generally, but is poor on light soil.

OATS.

The yield of oats is about an average, and the bulk of the crop is up to the mark in weight and quality. In some of the counties of the Lake Erie group and in Lambton, "lodging" was reported, owing to excessive growth, but in other sections of the province the opposite condition was the rule, and complaints were frequent of the shortness of the straw. Rust was general in the western half of the province, although in most cases the straw was only slightly attacked. In the counties of Perth, Wellington and Waterloo there was a good deal of smut, and reports concerning this pest also come from Peel and one or two other counties further east. In several of the river counties the grasshopper greedily attacked the standing oats, and only a modicum was left for the farmer to thresh; but even where this insect did not put in an appearance, the yield was uneven, and, as a rule, much below the average of the western counties. In Muskoka and Parry Sound rains about harvest time caused a sort of second growth, and as a consequence a good deal of the oat crop was cut in a rather green condition. In Dufferin, Renfrew, and in some places in the Northern Districts early frost did injury to the crop, and some fields had to be cut for fodder. A number of extraordinary yields were reported, in some cases running as high as 80 bushels per acre, and taking everything into consideration the crop may be classed as fully up to the average. The acreage and yield for 1887 and 1888 are given in the following table by county groups:

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie	183,079	7,900,155	43.2	171,977	5,346,520	31.1
Lake Huron	210,927	7,771,246	36.8	180,795	5,934,446	32.8
Georgian Bay	182,853	5,316,724	29.1	157,822	4,513,089	28.6
West Midland	391,766	15,931,550	40.7	349,528	11,267,375	32.2
Lake Ontario	315,837	12,348,550	39.1	289,874	8,395,202	29.0
St. Lawrence and Ottawa	416,806	12,297,713	29.5	394,250	10,792,952	27.4
East Midland	127,531	3,288,305	25.8	119,789	3,018,376	25.2
Northern Districts	21,069	612,668	29.1	18,428	580,141	31.5
Totals	1,849,868	65,466,911	35.4	1,682,463	49,848,101	29.6

The acreage of oats has increased every year since 1882, but in no year has it made such advance as in 1888, when 167,405 acres were added to the area of the previous year. The number of acres devoted to oats in 1888 was more than double that of either barley or fall wheat, and the increased area was pretty fairly divided between the various groups. The average yield of the province in 1888 was 35.4 bushels, and though 6.1 bushels above the light yield of 1887 was slightly below that of the seven years period. The average for 1882-8 was exceeded by four groups, the remarkable yield of 43.2 bushels per acre being averaged in the Lake Erie counties, Of the four groups failing to reach the average of the province the East Midland gave the least return, the average yield per acre being only 25.8 bushels. The total yield for 1888 was 15,618,810 bushels more than in the previous year, and 9,469,486 more than the annual average yield for the seven years 1882-8.

FROM THE AUGUST REPORT.

John Buckland, Gosfield N., Essex: There is a great yield of oats, and the quality is good, although some pieces have rust. We are just in the midst of the harvest with plenty of rain.

E. B. Tole, Harwich, Kent: Oats are a good crop both in yield and quality. The straw is slightly rusted, but the kernel is good. I threshed two loads, and they yielded 50 bushels to the load. We have drawn eleven loads off eight acres, and there are four loads yet in the field.

Samuel Maccoll, Dunwich, Elgin: Oats ripened very unevenly, but the yield will be the best for some years. Late oats are slightly rusted and lodged with the heavy rain and wind storm of the 3rd inst. Cutting began on the 7th of August.

W. W. Wells, Woodhouse, Norfolk: This seems to be a year set apart by nature to show what it can do. The crop is a magnificent one, and there has been no injury by rust or insects.

F. A. Nelles, Seneca, Haldimand: There is a large yield, and it is generally of good quality. There was no injury of any account except a slight rust in some places. We are busy cutting at present.

W. T. House, Bertie, Welland : The yield is large and the quality is excellent. The straw is rusted in some localities, but it has not injured the yield or quality of the grain.

Jas. Osborne, Plympton, Lambton : The yield is very large and the quality is good. The only injury will be by "lodging"—from excessive growth.

John Scott, Howick, Huron : Oats will yield well to the quantity of straw—about 35 bushels to the acre. The quality will be excellent. I have never seen a better crop on low land or land inclined to be wet, but on high and dry land the drouth affected the crop badly.

W. G. Ritchie, Greenock, Bruce : Oats may be put down as an average. The straw is generally short, but the grain is good. There was some rust. Many fields will have to be carried in loose, as the straw was so short that the binders could not tie it.

A. Gifford, St. Vincent, Grey : Oats are very short in the straw, but are well filled. There has been no injury from rust or any other cause except drouth, which has injured the heavy clay and gravelly lands.

John Lennox, Innisfil, Simcoe : Oats are short in the straw, but the quality is good. The timely rain we had two weeks ago has saved the crop, keeping it back and filling it well. The quality is plump and good.

James A. Glen, Westminster, Middlesex : Oats are a splendid crop, but there is some rust. The black varieties seem to have suffered most. There is also considerable smut, but after all it is a splendid crop.

Martin Emigh, Norwich N., Oxford : The yield will be large, and the quality of early sown good. Late sown will be slightly rusted.

Thos. A. Good, Brantford, Brant : Oats promise exceedingly well. They will be heavy and of good quality. The straw is bright and clean.

George Leversage, Fullarton, Perth : Oats are a very heavy crop. There is considerable smut, but I do not think it will seriously injure the crop.

C. Nicklin, Pilkington, Wellington : The straw is on the short side, but the grain will be good. I hear little about rust, but a great deal about smut, especially in the Black Tartar, which has not been so bad for years.

A. Kaufman, Wilmot, Waterloo : Oats generally will be a large yield, but the crop will be damaged by smut.

George Bailey, Melancthon, Dufferin : Oats look well, only short in straw.

Isaac A. Merritt, Grimsby S., Lincoln : Oats may be considered a very fair crop. There will be a good yield of oats of good quality. There has been a little rust.

Wm. A. McCartney, Trafalgar, Halton : Oats will be better than last year in both quantity and quality. The crop will yield from 35 to 50 bushels per acre, and there has been nothing to hurt.

F. J. Sleightholm, Toronto Gore, Peel : Oats are a little above the average yield, being 35 to 55 bushels to the acre. The quality is very good, although in some places the yield has been reduced by smut and rust. On some farms the standing grain is literally alive with a species of small, pale green louse, although no injury is perceptible.

A. Forster, Markham, York : The yield will be fully up to the average and the quality is good, particularly in the case of the early sown varieties. Some has been injured by rust in low lying ground.

Robt. Hodge, Clarke, Durham : Oats have mended well from the recent showers and will be a good sample—short in straw but of good quality. There has been no damage unless a little by the recent thunder storm in lying down.

W. G. Rundle, Darlington, Durham : Oats are in general very short in straw, but the heads appear to be well filled and will yield almost an average crop. The dry weather of June and July injured the crop somewhat.

John Williams, Hamilton, Northumberland. The late rains have materially improved the oat crop, so that the yield is likely to be a fair average. Early sown was injured somewhat by the drouth.

Samuel N. Smith, Sophiasburg, Prince Edward : The crop is poor, although what is sown has stood the drouth better than wheat or barley. It will be about half a crop. No rust is reported.

Leonard Wager, Sheffield, Lennox and Addington : The oat crop is very short, both in quantity and quality. It has been injured by the severe drouth.

Thomas Tapping, Barrie, Frontenac : I think this crop may be called a good average, certainly better than last year. There has been no injury from rust or from anything else but the lack of rain.

George Sanderson, Oxford, Leeds and Grenville : On moist, rich soil that is well tilled oats are a good crop both as to yield and quality, but on light land they are very poor. The fields have been injured by grasshoppers.

James Collison, Matilda, Dundas : The yield and quality of oats will be very good. There is no rust, but in some localities the grasshopper has done a good deal of harm. A good many farmers have cut the crop green.

H. F. McDermid, Cornwall, Stormont : Oats have been injured by drouth. The straw is short, as it ripened too fast.

A. M. Campbell, Kenyon, Glengarry : The yield will be fair and the quality good. There has been no injury by rust, but it has not stooled out much, owing to the dry season. Hence it is a thin crop.

Joseph Kyle, Hawkesbury E., Prescott : The continued dry weather all through the month of July has had the effect of shortening the straw of the early sown oats. The late sown (with favorable weather for filling), may be above the average. There is no rust yet.

Robt. McLaren, Horton, Renfrew : The yield will be light in both quantity and quality. The drouth prevented a healthy and vigorous growth of vegetation, and when the pastures got burned up grasshoppers turned upon the grain and injured some fields to so great an extent that the cattle were turned in to eat the balance.

Peter D. Campbell, Drummond, Lanark : The oat crop, like that of other grains, is very irregular. Some pieces on damp land are very good, but others on high ground are scarcely worth cutting. No rust nor any insects except grasshoppers, which are very thick at present.

John Campbell, Mariposa, Victoria : There is a light yield of oats. In sections favored by timely showers the crop is fair. The grain is good and plump. There was no injury other than that caused by drouth.

John Moloney, Douro, Peterborough : Oats will not be 50 per cent. of an average crop. The berry will be light. There has been no damage from rust, but owing to the dry season it is the shortest crop ever produced in this neighborhood.

Charles Anderson, Tyendinaga, Hastings : Oats are a poor crop. The crop has been hurt by the drouth. I notice more smut among the oats this year than usual.

J. Hollingworth, Watt, Muskoka : There are some good fields of oats, but they are the exception and not the rule. Late sown oats may now catch up, as we are having a little rain.

FROM THE NOVEMBER REPORT.

James MacFarlane, Dover, Kent : Oats are large in bulk, but inferior in quality, and there is very much smut.

Guye Culver, Rainham, Haldimand : Oats are a splendid crop, and a good sample.

L. Buckton, Crowland, Welland : Oats are good in quality, and the weight from 36 to 38 pounds per bushel.

Robt. Montgomery, Enniskillen, Lambton : Oats are a splendid crop. The grain is good, and the yield is the best for many years.

M. McDonald, Wananosh W., Huron : Oats are a fair crop, although short in the straw and rather small in the grain.

John Craig, Amabel, Bruce : Oats take a very wide range in yield. On rich, low lands they were excellent, while on high, poor soils they were in some instances not worth cutting.

John Booth, Normanby, Grey : Oats were very good, but the straw was short and there was a good deal of second growth caused by the late rains.

James Robertson, Nottawasaga, Simcoe : Oats took a kind of second growth after the rains came on, and the green oats did not ripen so well.

F. Malcolm, Blandford, Oxford : Oats are a great crop and the quality is excellent. In many instances from 60 to 80 bushels have been threshed per acre. One end of this township is poor land, and the average is cut down on that account.

H Chisholm, Brantford, Brant : Oats have not yielded as well as expected, but there are some varieties which have done better than others. My White Egyptian variety yielded 60 bushels per acre of good oats, 42 pounds to the measured bushel.

Benjamin Devitt, Waterloo, Waterloo : Oats are an excellent crop and of good quality. There was not much rust, and there was enough rain in season for grain generally.

John Short, Luther E., Dufferin : Oats are an extra crop and of good quality Some late fields were injured by frost.

W. H. VanDuzer, Grimsby N., Lincoln : Oats are plentiful and heavy, weighing 40 pounds per bushel.

George Hart, Saltfleet, Wentworth : Early sown oats are No. 1, but late sown was injured slightly by by rust.

John Marshall, Nassagaweya, Halton : Oats are about average in quantity, and in quality inclined to be light.

Wm. H. Proctor, King, York : Oats are above the average. The white oats especially are heavy.

S. Beall, Whitby, Ontario : Oats are good, but the straw is short.

W. A. Peters, Hope, Durham : Oats are very short in straw, but there is as much grain as usual.

John Miller, Haldimand, Northumberland : Oats are short in the straw, but well filled, and the quality is good.

H. Welbanks, Ameliasburg, Prince Edward : Oats are short in straw but well filled.

J. B. Aylesworth, Camden E., Lennox and Addington : Oats are of good quality, but the yield is a little below the average.

G. D. Dixon, Matilda, Dundas : Oats are good, where not destroyed by grasshoppers and crickets. In a few cases the oats were not worth cutting, as nothing was left but the naked stalk.

James Cattanach, Lancaster, Glengarry: Oats are very thin and short in many places. There is not much off the acre, but the grain is good according to the bulk of straw.

Harrison Cross, Hawkesbury W., Prescott: Oats are an average crop. The straw is short in some parts. but the head is good, although it suffered from rain in harvest.

Wm. Doyle, Osgoode, Carleton: Oats varied in quality according to the soil. On some light, sandy soil it did not exceed five bushels an acre, but on heavy clay soil it yielded upwards of fifty bushels per acre.

John Dunlop, Head, Renfrew: Oats are of good quality, but owing to the drouth there is a poor yield.

Wm. Armstrong, Otonabee, Peterborough: Oats are a fair crop, and the grain is pump and heavy,

Stephen Kettle, Glamorgan, Haliburton: Oats are very irregular. Some are very fair, while others are very poor in quality and quantity, which makes the average yield small.

F. Brenton, Thurlow, Hastings: Some oats are very good on low lands, but the crop is poor on uplands.

A. H. Smith, Monck, Muskoka: Oats range from bad to good.' The straw is from six inches to four feet in height, and the yield runs from 12 to 40 bushels per acre. It was badly frozen in places.

Wm. Jenkin, Perry, Parry Sound: On moist land oats were very good. On light land they got stunted by the drouth. When we got some rain they started a second growth, and before they came to maturity the frost caught them, leaving little else but hulls.

RYE.

It would seem from the remarks of some correspondents, and the fact that the acreage of rye in the province had increased about 23 per cent. compared with the previous year, that this crop is likely to regain favor to a certain degree. However, the area devoted to rye was only about one-tenth of that given to fall wheat or barley, and it is at the best a rather insignificant crop. Much of its value comes from the fact that it is used for green feed in the spring and fall, and it is often plowed under for manure, but where allowed to come to a head this year it gave nearly an average crop, while the sample was much above the ordinary in quality. The straw of this crop was long, and of much better quality comparatively than that of the other grains. The following table affords a comparison of the crop for the years 1887 and 1888 by county groups:

Districts.	1888.			1887.		
	Acres.	Bush.	Bush. per acre.	Acres.	Bush.	Bush. per. acre.
Lake Erie	13,694	241,768	17.7	10,675	133,503	12.5
Lake Huron	1,008	20,470	20.3	619	10,215	16.5
Georgian Bay	2,826	47,851	16.9	1,889	31,670	16.8
West Midland	5,597	107,691	19.2	4,300	59 238	13.8
Lake Ontario	28,380	412,476	14.5	22,020	266,154	12.1
St. Lawrence and Ottawa	18,986	270,337	14.2	16,032	227,114	14.2
East Midland	12,697	180,530	14.2	12,339	158,807	12.9
Northern Districts	899	14,179	15.8	488	8,186	16.8
Totals	84,087	1,295,302	15.4	68,362	894,887	13.1

The acreage of rye was 15,725 acres more than in the previous year, and is the largest since 1884, although it is 26,674 acres below the average of the seven years. The average yield per acre was 2.3 bushels more than in 1887, but fell short of that of the seven years 1882-8 by 1 bushel.

FROM THE AUGUST REPORT.

Robt. Watson, Windham, Norfolk: Rye is in excellent condition, and it was cut n good order.

James Brodie, Artemesia, Grey: Very little rye is grown here, but what there is was a good crop this year, and was saved in prime condition.

Wm. Jamieson, Westminster, Middlesex: Rye is very little sown but for a green crop. Sown in the early fall, it will cut in May, when the winter feed is generally about used up. What is not required for green feed can be made into hay, and the ground may be plowed and sown to millet, Hungarian grass or corn.

Robt. Davison, Marysburg N., Prince Edward: Many farmers cut their rye while green for feed, as there was very little grain in the heads owing to drouth. My straw was as long as in any year, but the grain was a half crop. It was secured in splendid condition.

C. R. Allison, Fredericksburg S., Lennox and Addington: Rye is well secured, but very poorly loaded as a general thing. Rye in this township is usually sown on light land.

Isaiah Wright, Augusta, Leeds and Grenville: Rye was harvested in good condition, and was well secured.

Lewis Morton, Goulbourn, Carleton: Rye is very light in straw, but the grain is plump and well filled, and secured in good condition.

Robt. McLean, Horton, Renfrew: Being an early crop, rye did not suffer from the drouth to the same extent as spring crops. The yield will be light, but it was secured in good condition.

Alex. Brown, Burleigh, Peterborough: Rye is a good crop, and well secured. There has not been much rye sown for two year past.

W. H. Chapman, Huntingdon, Hastings: Rye was a fair crop, and was secured in good condition. It is not much grown in this locality.

FROM THE NOVEMBER REPORT.

John Mcharg, Houghton, Norfolk: Rye is the best we have had for some years.

Christian T. Groh, Waterloo, Waterloo: Rye is of very good quality, and there was more grown than in former years. It is coming into favor little by little.

P. W. Miller, Kaladar, Lennox and Addington; Rye was thin on the ground, and was not well filled in the ear.

T. M. Robertson, Nepean, Carleton: Rye is a good crop, and the grain is of excellent quality.

F. Birdsall, Asphodel, Peterborough: Rye is a fair crop, but the grain is rather small.

Lewis Marsh, Hundingdon, Hastings: Rye is good, but not up to the average crop.

PEASE.

Pease, of all the crops that come into general cultivation in Ontario, seems to have endured the adversities of the season best. Wherever it was sown in reasonable time this crop, from its leafy nature, quickly shaded the ground, and the effects of the drouth was not so severe as upon the outstanding crops. This is especially the case in good soils, and in naturally moist situations. The effects of the drouth were more noticeable in the eastern than in the western portion of the province, and consequently the yield was much lighter in the East Midland group and in the river counties than in the western groups. Mention was made of the bug in several counties, more particularly in those comprising the Lake Erie and West Midland groups, but happily this pest did but little damage compared with past years, although its presence was more apparent this year than in 1887. While a decrease of 30,103 acres is noted in the area compared with that of the previous year, there is an increase in the total yield of 2,096,531 bushels, owing to the average yield per acre being 20.5 bushels in 1888 against 16.8 bushels the year before. The yield, however, falls .2 bushel below that of the seven years 1882-8. In the following table the acreage and yield is given by county groups for the years 1887 and 1888:

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie..................	70,492	1,681,649	23.9	79,461	969,539	12.2
Lake Huron................	87,997	1,961,331	22.3	89,254	1,858,891	20.8
Georgian Bay...............	83,191	1,430,886	17.2	78,354	1,509,630	19.3
West Midland..............	152,082	3,818,156	25.1	149,023	2,784,218	18.7
Lake Ontario......	164,308	3,279,080	20.0	176,734	2,580,318	14.6
St. Lawrence and Ottawa....	80,945	1,299,102	16.0	90,324	1,481,519	16.4
East Midland.....	48,909	600,731	12.3	55,682	782,732	14.1
Northern Districts..........	8,729	198,928	22.8	7,924	206,485	26.1
Totals.................	696,653	14,269,863	20.5	726,756	12,173,332	16.8

The best average yield per acre was reported in the West Midland group, being 25.1 bushels, the Lake Erie counties followed with 23.9 bushels, the Northern Districts came next with 22.8 bushels, and the Lake Huron group was fourth with 22.3 bushels. In the East Midland group only 12.3 bushels were realised, and the yield was also unusually light in the St. Lawrence and Ottawa and Georgian Bay counties. Notwithstanding the decrease in the acreage of the province generally, there was an increase in the Georgian Bay and West Midland groups, and in the Northern Districts.

FROM THE AUGUST REPORT.

A. Papineau, Rochester, Essex : Pease have been damaged by bugs, and have so suffered for the pas twenty years. They will have to be fed early on that account. The growth has been very moderate, but the yield is good.

E. B. Tole, Harwich, Kent : The crop is good, although there are some bugs. Several of the neighbors have threshed, and say the yield is from 25 to 30 bushels per acre.

J. McLean, Woodhouse, Norfolk : Pease are an excellent crop here. They have not been injured by bugs or the drouth ; but, like other crops, they have not ripened evenly this year. I saw one field cut in the latter part of July, but very little has been harvested yet.

F. A. Nelles, Seneca, Haldimand : Pease are an extra good crop—the best I have ever seen. There was no bug, and the weather was favorable.

John E. Cohoe, Wainfleet, Welland : Pease are more extensively sown than for years. There is a great amount of vine, and there will be a heavy crop.

J. Dallas, Bosanquet, Lambton : Pease are a very good crop. as there has been no damage from any cause whatever. The bug has emigrated to some other part of the continent.

W. J. Martin, Wawanosh E., Huron : Pease will be rather a light crop, but they appear to be free from the bug. The drouth has caused the straw to be short and thin on the ground, and the pods to be short. The worms are very bad in them.

John Douglas, Arran, Bruce : The crop is not nearly so good as last year. There has been no damage by the bug. The drouth has forced them too quickly, and they are not well-filled.

A. Gifford, St. Vincent, Grey : Pease are rather thin on the ground. There was no damage from bugs, but drouth has made the pods short, and the yield will be below the average.

James Ross, Oro, Simcoe : The pease harvest is just on. There is a light crop on account of drouth, but no complaint of bugs.

Malcolm Cameron, Ekfrid, Middlesex : Pease are a very heavy crop. There are no bugs, but a little mildew is observed on low ground.

Thos. Baird, Blandford, Oxford : Pease are a first-class crop in every respect. There was no bugs to hurt them.

George Leversage, Fullarton, Perth: Pease are unusually heavy. I never knew the crop to be so exempt from bugs or any other drawbacks.

George Cushing, Arthur, Wellington: Pease look the best of any crop. I have not heard of any damage from the bug. Pease have suffered most from the drouth on high lands, but on low lands the crop was good.

Christian T. Groh, Waterloo, Waterloo: Pease will be a fair average crop in this locality. The lower pods on the vines are well filled, while those on the top are smaller. They were in need of rain while in bloom.

J. Husband, Trafalgar, Halton: There has been no bugs, and the crop is excellent.

Wm. Kersey, Toronto Gore, Peel: Peas are an abundant crop and will yield well. I cannot see any fields that you would call a failure.

R. T. Wood, Etobicoke, York: Pease are good; in fact I never saw them better podded than they are this year. If the weather continues fine the straw will be in first-class condition.

Thos. Allen, Reach, Ontario: The dry weather reduced the yield of early varieties, such as those grown for seedsmen. The late varieties are a fair crop. There are no bugs or weevil.

James Parr, Cartwright, Durham: Pease will be a fair crop. The straw is somewhat short, but the vines are well loaded. The season is rather dry for this crop. There is no appearance of the bug.

E. J. Honey, Percy, Northumberland: Pease have been injured very much by the drouth, and some fields have been totally destroyed by a small greenish worm about an inch and a quarter long eating the tops off the vines about the latter part of June. Some fields were plowed up in the adjoining townships. Another batch of worms have just appeared and are eating the leaves and taking the juice out of the pods.

Robt. Davison, Marysburg N., Prince Edward: Pease are a total failure in some places. Many farmers will never get their seed as it was so hot and dry in the blossoming season. There was no damage by bugs. All the early varieties are harvested and are a failure, but some of the common late varieties are fairly good.

Wm. J. Hinchey, Sheffield, Lennox and Addington: Early sown pease are hardly worth harvesting, but the late sorts are fair. There are no bugs now in this section, although they were very plenty some years ago. The crop generally has suffered from want of rain.

R. J. Dunlop, Pittsburg, Frontenac: Pease will be a light crop generally. It was damaged while in blossom by the continued drouth.

John C. Stafford, Lansdowne, Leeds and Grenville: Pease are in excellent condition. There was no damage by bugs or drouth, as they stand drouth better than any other grain crop.

D. B. McMillan, Lochiel, Glengarry: Pease seem to be in good condition and will be a fair crop.

F. N. Cadieux, Alfred, Prescott: Pease looked well until lately, but they have been injured by mildew and rain.

Wm. Doyle, Osgoode, Carleton: Pease are not very heavy, owing to the drouth. They are mostly all harvested and in good condition.

Robt. McLean, Horton, Renfrew: Pease are short in straw and light in the pod. The pease this year appear to be clear of the little worm that used to infest them.

J. K. Darling, Ramsay, Lanark: Pease have been hurt considerably by the drouth, and the crop is consequently light. The grain is small but well ripened, and is being harvested in good shape.

J. M. Drummond, Otonabee, Peterborough: Fields that got a shower are middling fair. I hear of some of early sown that would not be a hat-full to the acre and was cut for fodder. There was no bug, but the drouth has injured them a great deal, especially on dry soil. The straw is not more than a foot in length, and the few pods are very short with two or three pease to the pod. On damp soil they are medium, and late sown are the best.

Chas. R. Stewart, Dysart, Haliburton: Pease are good; they always are in this district. They have suffered a little from drouth, but that is all. The crop will be a little below an average.

Charles Anderson, Tyendinaga, Hastings: The straw is short and thin on the ground; the pods are numerous and small, but the grain is good. It was damaged by drouth, but there were no bugs.

Joseph Alton, Strong, Parry Sound: In some places pease have been almost burnt up with the long drouth; but in places where they are on damp land they look very well. On the whole they will be far short of last year.

FROM THE NOVEMBER REPORT.

E. B. Tole, Harwich. Kent: Pease are a good, fair growth both of straw and grain, and there were not as many bugs as were here a few years ago.

John Meharg, Houghton, Norfolk: Early pease are very good, but the same cannot be said of late pease.

John Bradford, Dunn, Haldimand: Pease are excellent, both as regards quality and yield.

Calvin Boyd, Enniskillen, Lambton: Pease are a fair average both in yield and quality, though damaged by the pea weevil.

John Hinchley, Hullett, Huron: The sample is good, but the pods are short, caused by dry weather at the time of filling.

John Craig, Amabel, Bruce: Pease are a light crop, but the sample is good.

John Booth, Normanby, Grey: Pease are good, but small in grain and short in straw.

John Darby, Vespra, Simcoe: Pease are sound but rather small.

W. Dawson, Williams W., Middlesex: Pease are a good crop. I heard of a few bugs being found, but not enough to do much damage.

Martin Emigh, Norwich N., Oxford: Pease were an excellent crop—from 25 to 35 bushels an acre. There were a few bugs amongst early sown.

H. Chisholm, Brantford, Brant: Pease have done remarkably well this season. At one time it was thought they would be a failure, owing to the worms; but these were stopped by a heavy dash of rain—at least they disappeared immediately after it.

John Campbell, Blanshard, Perth: Pease are a fair average crop, and there is no bug.

Duncan Macfarlane, Puslinch, Wellington: Pease are a fine crop, and are of good quality.

John Marshall, Nassagaweya, Halton: Pease are a good crop all around. The yield is fair, the quality is good and the straw is good also.

John Sinclair, Chinguacousy, Peel: Pease are a good sample, but are not yielding very well.

Wm. H. Proctor, King, York: Pease are very heavy in straw, and appear to yield well.

J. W. Caldwell, Hope, Durham: Pease are a very light crop, and were very much injured by drouth.

John Williams, Hamilton, Northumberland: Pease were badly injured, and in some instances wholly destroyed, by a sort of caterpillar.

R. Lowey, Athol, Prince Edward: Pease were generally good in quality, but the yield was small on account of drouth.

P. W. Miller, Kaladar, Lennox and Addington: Pease are middling on low ground, but not worth cutting on high land.

R. J. Dunlop, Pittsburg, Frontenac: Pease will be a small crop generally, but the sample is good.

John Cattanach, Lancaster, Glengarry: Pease are short and thin, but the grain is good. The return is small, owing to the dry summer.

Harrison Cross, Hawkesbury W., Prescott: Pease are not an average crop. On account of the wet, cold spring they were killed out to some extent, and then suffered from drouth in midsummer.

Lewis Morton, Goulbourn, Carleton: Pease are small but sound.

Wm. Paterson, Ramsay, Lanark: Pease are a poor crop owing to drouth.

F. Whiteside, Mariposa, Victoria: Pease are well filled, and are better than last year.

Wm. Armstrong, Otonabee, Peterborough: Pease are a poor crop, and badly affected by the drouth.

D. Galloway, Lutterworth, Haliburton: Pease were injured on light land by want of rain early in the season.

Anson Latta, Thurlow, Hastings: Pease are rather a short crop but are of good quality. No bug or worm.

A. H. Smith, Monck, Muskoka: Pease were badly frozen, and the yield is from 0 to 20 bushels. The sample is good. A great quantity of pease and oats mixed were sown so as to cut with the reaper, and the quality and yield were good.

Hugh Jackson, Humphrey, Parry Sound: Pease are light in the straw, but I think will thresh well.

INDIAN CORN.

In the Lake Erie group, where about half of the corn of the province is raised, the reports were very favorable, many correspondents employing such terms as "excellent," "splendid," "magnificent," to describe the crop. A number of remarkable yields were reported from these counties, some of which are quoted below. The greater part of the crop in that section was gathered in good condition, although a few late fields were touched by frost. In the West Midland and Lake Ontario groups corn was also a good crop, but in the more eastern portion of the province drouth early in the season and frost toward the close rendered the yield rather unsatisfactory. The crop was not altogether free from pests, the white grub and cut-worm doing considerable damage in several counties between Lambton and the St. Lawrence. However, it may be ranked as the best of the year, as the average yield per acre was 78.2 bushels, being an increase of 26.9 bushels over that of the previous year, and 10.7 bushels more than that of the six years period 1882-8. The area was increased by 59,078 acres, or over one-third more than that of the previous year; and this increased acreage, coupled with the improved average yield, gives a total yield of corn in the ear more than double that of the year 1887. But some deduction must be made from this apparent total yield, as it is reasonable to suppose that a good share of the increased acreage of corn resulted not from a desire to grow more ears for husking, but from the necessity of getting fodder to supplement the poor pastures and the greatly reduced hay crops of the past two years, and consequently much of the increased acreage was cut for feed before the ears were developed.

Districts.	1888.			1887.		
	Acres.	Bushels. (in ear.)	Bush. per acre.	Acres.	Bushels (in ear).	Bush. per acre.
Lake Erie	108,279	9,404,099	86.9	87,135	4,560,559	52.3
Lake Huron	11,975	949,259	79.3	7,548	405,309	53.7
Georgian Bay	1,913	119,325	62.4	1,193	37,627	31.5
West Midland	33,684	2,585,369	76.8	22,788	1,128,901	49.5
Lake Ontario	35,297	2,529,582	71.7	25,091	1,152,573	45.9
St. Lawrence and Ottawa	22,948	1,337,332	58.3	14,558	845,261	58.1
East Midland	8,480	497,165	58.6	5,341	262,216	49.1
Northern Districts	395	14,649	37.1	239	12,306	51.5
Totals	222,971	17,436,780	78.2	163,893	8,404,752	51.3

It will be seen that nearly half the acreage of corn grown in Ontario is to be found in the Lake Erie counties, while the average yield per acre in this group was 16.9 bushels more than the average for the rest of the province.

FROM THE AUGUST REPORT.

Jasper Golden, Gosfield S., Essex : Corn never was in better condition ; in fact, it could not be. It is tall, has a large stalk, is earing well, and promises a bountiful harvest.

John Bishop, Orford, Kent: There is the greatest growth of stalk I ever saw. The ears are well set, and if nothing unusual occurs we shall have a very heavy crop.

Alex. Young, Harwich, Kent: Early in the season corn suffered from cold, the grub and the wire-worm, and looked very poor. Now it has the promise of being the best crop grown for years.

Charles Chute, Malahide, Elgin: Corn is looking splendid, and bids fair for a big crop. Some fields were hurt by grubs, but to no great extent.

J. McLean, Woodhouse, Norfolk : Corn promises to be an abundant crop. We have had plenty of rain and corn is consequently large. Recent heavy rains have caused it to fall down, but it will recover itself.

John E. Cohoe, Wainfleet, Welland : Corn promises to be a good crop. A good deal that was planted on sod was destroyed by grubs, but on loose soil the corn was not affected by them, and is a promising crop.

Jesse Neff, Jr., Warwick, Lambton : Corn is at present thriving beyond all expectations. Although badly injured by the ordinary yellow worm and cut worm, it is bidding fair to yield a good crop.

James A. Glen, Westminster, Middlesex : Corn is a good crop and all that could be desired. The only drawback is from the white grub and cut worm on fields plowed from old pastures. Fields that are continuously tilled are free from these pests.

Alex. McFarlane, Norwich S., Oxford : This crop could not be better from present appearances. The stalks are very rank, and the ears are found in abundance. The corn has not been affected by drouth. There is some show of smut.

Christian T. Groh, Waterloo, Waterloo : This is not a great corn district, but considerably more is grown than formerly. As hay is scarce, corn is sown for fodder. There are good prospects for the crop as the drouth has not seriously affected it.

A. Spears, Caistor, Lincoln : Corn promises to be a fine crop. It was not affected by drouth or other influences.

E. D. Smith, Saltfleet, Wentworth : Corn is in excellent condition. It came up rather thin owing to cold weather, and some fields were destroyed by bugs, but these were generally replanted. Yet in spite of this bad start it will be an average crop at least.

J. C. Dunn, Brighton, Northumberland : The present condition of the corn crop is good. I do not think it has been affected by drouth. The grub had the effect of thinning the crop very much, and some fields were planted the third time. Still the crop will be good.

Samuel N. Smith, Sophiasburg, Prince Edward : A large number are sowing sweet corn for the canning factories, and it looks very good so far. Field corn has been sown quite extensively for fodder. What corn was planted came up very unevenly, and will be only a half crop. Early planted has done best, although the grubs destroyed many hills.

R. J. Dunlop, Pittsburg, Frontenac : A good deal missed coming up after planting, as the ground was so dry. It is now growing well on suitable soil.

Ambrose Derbyshire, Bastard, Leeds and Grenville: The condition of corn is good at present, considering unfavorable weather. Grubs and the cold weather in the early part of the season affected it somewhat. The present outlook is very good, and it will be an average crop.

A. Harkness, Matilda, Dundas: Corn was injured by a grub in the spring, and some farmers replanted two or three times, while others plowed up. The season otherwise was favorable, but the crop will probably be below the average.

Charles Anderson, Tyendinaga, Hastings: At present corn looks fine and promises to be a good crop. It has been injured by drouth, but recent rains will, I think, bring it around all right. I believe it to be one of the most profitable crops we raise here.

FROM THE NOVEMBER REPORT.

John Warnock, Tilbury W., Essex: Corn is the best crop I remember seeing in this section of the country. One man told me that he got 167 bushels per acre of good corn (in ear) from nine acres.

Thos. F. Routledge, Orford, Kent: Corn is a good crop—the best we have had for years.

Samuel Maccoll, Dunwich, Elgin: The condition of the corn crop is excellent. There was no drawback to it from planting to harvesting, and the season was most favorable. The crop was never equalled before in the history of this township.

James Morrison, Walsingham, Norfolk: Corn is an excellent crop, and turns out well.

L. Buckton, Crowland, Welland: There is a heavy yield of stalks and a fair yield of grain on heavy planting.

John Morrison, Plympton, Lambton: The corn crop is first quality, and was cut and saved in fine conditon.

Adam H. Secord, Dorchester N., Middlesex: This has been a good year for corn. Some late-planted and badly tilled pieces got bitten with frost before being fully ripe.

Martin Emigh, Norwich N., Oxford: Corn, where not hurt by the cut worm, is an excellent crop—the best for many years.

Thos. A. Good, Brantford, Brant: Corn is in very good condition, and yields 100 bushels per acre, hard and ripe.

W. H. VanDuzer, Grimsby N., Lincoln: Corn is a fair crop. It would have been very good, I think, if it had a few more showers while filling. Some was damaged a little by frost.

Erland Lee, Saltfleet, Wentworth: Corn was seldom better than it was this year, although where sown on sod it was badly eaten by grubs. It ripened well, but there was bad weather for husking.

W. R. Leavens, Hallowell, Prince Edward: Indian corn or maize is an excellent crop, but sweet corn, which is extensively grown, was injured by frost.

John Rabb, Elmsley S., Leeds and Grenville: Some complain of injury by frost, yet others have very good samples.

John Taylor, Osnabruck, Stormont: The dry weather kept corn back, and when the rain came it started and was green at the time the frost put in an appearance in September. The frost injured it to such an extent that it was not over half a crop.

Harrison Cross, Hawkesbury W., Prescott: Corn was very much injured by drouth and cold nights, which retarded its growth. Then we had a wet, cold fall, with frost at night, which injured a great many fields.

J. C. Hanley, Tyendinaga, Hastings: Corn is yet in the fields in many cases, as on account of excessive rains it has been unfit to take in.

SORGHUM.

The growing of sorghum is confined almost entirely to the Lake Erie counties, and even there it is raised to a very limited extent. Late sown was caught by the frost, but that put in early was in good condition for cutting, and a yield of 150 to 160 gallons of syrup per acre is reported. It would seem that this crop, never popular, is steadily declining in favor.

FROM THE NOVEMBER REPORT.

Arthur J. Arner, Gosfield, Essex: Sorghum is grown to only a small extent. It was in fine condition where cut before the frost.

John Meharg, Houghton, Norfolk: Sorghum is good, and the syrup is of excellent quality.

Robt. Rae, Bosanquet, Lambton: Sorghum is not an extra crop. The season was too cold.

W. H. VanDuzer, Grimsby N., Lincoln: Sorghum was a fair crop, yielding about 150 or 160 gallons per acre.

BUCKWHEAT.

Never a popular crop, buckwheat appears to be further declining in favor. The yield promised unusually well in the west early in the season, but several correspondents report a loss of about a third by frost. In the St. Lawrence counties, where buckwheat is most largely grown, the drouth injured the fields, and wet weather about harvest time delayed cutting, and left the crop in a tender condition when the early frosts came. More than in any other year for a long period, buckwheat proved the friend of the apiary. It will be seen by referring to the remarks on honey, that the bees gathered nearly all their stores and surplus from buckwheat. The following table gives the acreage and yield by county groups for 1887 and 1888 :

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie	9,243	190,411	20.6	10,072	156,823	15.6
Lake Huron	739	11,107	15.0	1,023	25,339	24.8
Georgian Bay	487	7,685	15.8	835	11,174	13.4
West Midland	1,759	33,395	19.0	2,649	31,998	12.1
Lake Ontario	18,037	445,646	24.7	17,032	315,619	18.5
St. Lawrence and Ottawa	22,471	434,452	19.3	26,361	384,938	14.6
East Midland	4,440	93,595	21.1	5,787	87,672	15.1
Northern Districts	352	5,992	17.0	384	11,790	30.7
Totals	57,528	1,222,283	21.2	64,143	1,025,353	16.0

There were 6,649 acres less in buckwheat in 1887 than in 1886, and in 1888 the area was further reduced by 6,615 acres. The average yield per acre was nearly one-third more than that of the poor yield of the previous year, but was one bushel less than the annual average. Nearly 60 per cent. of this crop is grown in the seven counties—Norfolk, Northumberland, Prince Edward, Leeds and Grenville, Carleton, Lanark and Hastings.

FROM THE NOVEMBER REPORT.

A. Papineau, Rochester, Essex : Buckwheat is a fair crop, but it is not much grown in this township.

Thos. F. Routledge, Orford, Kent : The early frost spoiled the crop of buckwheat.

B. Killmaster, Walsingham, Norfolk : Buckwheat was hurt by the frost, and will be about a two-thirds crop.

John A. Law, Stamford, Welland : Buckwheat is a good crop. The late was hurt slightly by frost.

John V. Battram, Moore, Lambton : There is not much buckwheat cultivated. I had four acres, and got about 85 bushels of good grain.

John Douglas, Arran, Bruce : There is a very small amount of buckwheat sown in this county. I sowed an acre of it for my bees, and it turned out very well.

S. P. Zavitz, Lobo, Middlesex : But little buckwheat was sown, and that was half destroyed by early frost.

Henry Key, Oakland, Brant : Buckwheat was injured by the early frost, and while some fields yield well, the total will be below the average per acre.

George Hart, Saltfleet, Wentworth : Buckwheat is about two-thirds of a crop. It was blighted by hot, dry weather, and also injured by early frost.

E. Lunan, Markham, York : Buckwheat is very liltle grown in this township, but what there is looks well.

George Kennedy, sr., Haldimand, Northumberland : Buckwheat is a good crop, but hard to get dried with so much rain. Some late fields were nipped with early frost.

W. R. Leavens, Hallowell, Prince Edward: Buckwheat is well filled, and is the largest acreage for years. The grain is of superior quality.

Wm. J. Hinchey, Sheffield, Lennox and Addington: Buckwheat did not come up good when sown. on account of the drouth, and the frost caught most of it before it was fully ripe.

Thos. Leonard, Portland, Frontenac: Buckwheat promised well, but the early frost hurt it.

Gideon Fairbairn, Edwardsburg, Leeds and Grenville: Early buckwheat was secured in good condition, but the early frost damaged that which was late.

Wm. Doyle, Osgoode, Carleton: Buckwheat is a light crop. It was injured by drouth in the early part of the year, and also by an early frost at the ripening period.

A. F. Stewart, Beckwith, Lanark: Buckwheat was damaged about one-third by frost.

Thos. H. Blanchard, Sidney, Hastings: Buckwheat has been the most difficult crop to secure, as much of it was sown after the rains in the latter part of the summer, and the difficulty has been to get it dry.

BEANS.

The bean crop last year was classed among the poorest, but this year it ranks with the best. Kent is the great bean-growing county of the province, 13,267 out of the 22,700 acres given to beans being found in that county. In that section favorable weather brought the crop to perfection. One correspondent reported a number of fields as yielding 40 bushels to the acre, and although along the St. Lawrence the drouth and early frost affected the crop, the yield per acre for the province is much above the average. The bulk of the crop matured well, however, and is of excellent quality. It will be seen from the following table that there has been an increase in the acreage as well as in the yield, compared with the previous year:

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie	15,600	376,417	24.1	14,534	178,182	12.3
Lake Huron	478	13,098	27.4	549	8,725	15.9
Georgian Bay	230	3,436	14.9	166	3,359	20.2
West Midland	692	17,481	25.3	590	9,992	16.9
Lake Ontario	1,882	43,576	23.2	1,446	23,047	15.9
St. Lawrence and Ottawa	3,129	66,860	21.4	2,571	46,764	18.2
East Midland	580	11,862	20.5	393	5,475	13.9
Northern Districts	109	1,796	16.5	26	431	16.6
Totals	22,700	534,526	23.5	20,275	275,975	13.6

The average yield per acre was 23.5 bushels, as against 13.6 bushels in 1887 and 20.9 bushels for the annual average for the period 1882-8. In the county of Kent the yield more than doubled that of the previous year, and was 4.5 bushels per acre above its annual average.

FROM THE AUGUST REPORT.

Jasper Golden, Gosfield S., Essex: Beans are growing nicely, and there has been no injury to note. This crop is more extensively raised this year than heretofore.

W. McKenzie Ross, Chatham, Kent: Beans are splendid all over Kent. The oldest man in the county never saw finer growing weather.

Alex. Young, Harwich, Kent: Beans give promise of a splendid crop, and more than usual are planted.

J. E. Cohoe, Wainfleet, Welland: Beans were a little backward this season on account of the drouth, but they are making up now and will be a good crop.

W. S. Howell, Sombra, Lambton: Beans did not come up regularly, and the cut-worm fairly slew them in some places. Some ground was planted the second time. A few pieces were sown to millet. The crop is growing nicely, and promises well.

John H. Lindebury, Clinton, Lincoln: Beans will be a good crop. At present they are doing well, and promise to be a heavy crop.

W. R. Dempsey, Ameliasburg, Prince Edward: There are not many beans grown. The drouth affected them to so great an extent that not more than one-half the seed came up, and they have not filled well.

J. Edgar, Kitley, Leeds and Grenville: Beans are looking well, and promise a good yield.

J. P. Fox, Winchester, Dundas: Beans were injured by drouth, but seem to be loading well.

T. M. Robertson, Nepean, Carleton: Beans are in poor condition. They were somewhat injured by drouth and a slight frost on the 11th of July.

J. K. Darling, Ramsay, Lanark: There will be little more than a half crop, but I think that what is gathered in will be good.

Wm. H. Chapman, Huntingdon, Hastings: There is not much grown in this section of the country' Like all other crops they have suffered from drouth, and some have been destroyed by woodchucks.

FROM THE NOVEMBER REPORT.

John Bishop, Orford, Kent: We never had better beans. Lots of fields are turning out 40 bushels to the acre.

E. B. Tole, Harwich, Kent: Beans matured well. They are a good crop, and of excellent quality.

Sheldon Ward, Malahide, Elgin: There are very few beans grown in this section, but they are of good quality this season.

W. S. Howell, Sombra, Lambton: Beans grew fairly and ripened well, but some were burst with rain. A few are badly injured, but the rest are prime.

James A. Glen, Westminster Middlesex; Beans are good. although the later ones got caught with the frost.

John Marshall, Nassagaweya, Halton: Beans are a very fine crop, having ripened evenly, and the color is very white.

D. B. Nighswander, Markham, York: Beans are good, but there are not so many sown as formerly.

J. C. Dunn, Brighton, Northumberland: Beans are fairly good, although not largely sown.

R. Lowey, Athol. Prince Edward: Beans are generally a good yield, but are small on account of the drouth. There are not many raised in this district.

Joseph Kyle, Hawkesbury E., Prescott: Beans have been a plentiful crop, but there will be a great deal of refuse owing to frost.

HAY AND CLOVER.

It was predicted early in the season that hay and clover would be a very light crop. In most localities the seed sown in 1887 was a failure on account of the drouth, which did far more damage than winter or spring frosts. Much of the clover spared by the drouth, however, was destroyed by late frosts heaving out the plants, especially on heavy and low-lying land, and many fields were plowed up. In the spring the remaining crop was reported as backward, owing to the lateness of the season. Old meadows were generally in better condition than those of the previous year's seeding. August reports showed that while mixed grasses did fairly in most counties, clover was a poor crop, owing partly to the trying effects of the steady drouth of the previous summer and fall, and partly to "heaving" in winter, which killed out many plants. The drouth of spring and early summer completed the difficulties against which the crop had to contend, and it is doubtful if so poor a cut has been the experience of the province for twenty years. The most favorable accounts of the yield of hay and clover and the prospects of clover seed came from Essex and Kent, while the most discouraging reports were received from those counties bordering on Lake Ontario. Correspondents, however, are almost unanimous in declaring that the crop was cut and placed in the mow in splendid condition. Estimates of the yield per acre run all the way from a quarter of a ton to two tons, but the average for the province is placed at 0.88 ton, against 1.36 in the previous year, and 1.33 for the period 1882-8. The following table, which gives the acreage and yield by county groups for 1887 and 1888, shows that while there has been a small increase in the acreage the total yield for the province is barely two-thirds of the average annual product:

Districts.	1888.			1887.		
	Acres.	Tons.	Tons. per acre.	Acres.	Tons.	Tons. per acre.
Lake Erie..................	270,972	263,322	0.97	270,779	357,716	1.32
Lake Huron.................	243,207	243,616	1.00	235,757	363,476	1.54
Georgian Bay...............	203,618	172,659	0.85	192,180	262,204	1.36
West Midland.......	406,550	425,435	1.05	402,129	576,109	1.43
Lake Ontario................	387,871	264,906	0.68	408,562	522,060	1.28
St. Lawrence and Ottawa....	584,413	498,935	0.85	575,494	778,743	1.35
East Midland...............	152,869	98,468	0.64	154,103	176,897	1.15
Northern Districts..........	43,138	41,676	0.97	41,639	56,405	1.35
Totals.................	2,292,638	2,009,017	0.88	2,280,643	3,093,610	1.36

The failure was general. The West Midland district, where the largest yield for the year was noted, barely exceeded a ton to the acre; in the Lake Huron group the average was exactly a ton, while in every other district it was below that amount, .64 ton being reported for the East Midland group and .68 ton for the Lake Ontario counties.

CLOVER SEED.—The experience of clover this year was almost identical with that of 1887. The winter and spring were trying on fields already thinned by drouth, and the second dry summer left the crop in a very unsatisfactory condition, so far as any prospect of seed was concerned. The fall rains helped the growth of leaf and stalk, but the midge was almost everywhere, and while a few correspondents in the Lake Ontario counties spoke of a fair quality of seed, the majority of returns described the crop as a complete failure. Where any seed was obtained it was generally where fields were pastured until the middle of June, and the second growth then given a good start. The fall was so wet and cold that that the ripening and curing of clover was difficult. While the drouth and the midge were injurious in nearly every section of the province, the former was most trying in the eastern and the latter in the western half. In some of the St. Lawrence counties clover was not only a failure as a seed crop, but it would appear that it is steadily dying out in the pastures.

FROM THE AUGUST REPORT.

John Hooker, Mersea, Essex: Hay and clover was a medium crop. It was hurt to some extent by the early drouth, but was saved in good condition. The second crop of clover looks well.

James McFarlane, Dover, Kent: Hay and clover gave a full yield, and was secured in first rate condition. I cannot say yet what clover seed will be, but the second growth is much better than for some seasons past.

Samuel Williams, Southwold, Elgin: The hay crop is below the average. The first cutting is damaged by rain, but the bulk of the crop was housed in good condition.

J. McLean, Woodhouse, Norfolk: Hay and clover were secured in excellent condition, but the crop was very light. The clover was mostly killed by the drouth last year and the spring frosts. The few fields that remain are good owing to the profuse rains.

Guye Culver, Rainham, Haldimand: The hay crop was very short when cut, and was mostly blow grass and timothy. Nearly all the clover was winter-killed. The prospects for clover seed are small.

Cranmer Riselay, Bertie, Welland: Hay was saved in good condition, but it is the shortest crop ever harvested in this township. I don't think there will be a bushel of clover seed saved in Bertie.

A. A. Meyers, Sombra, Lambton: Hay and clover was not a heavy crop, but it was harvested in good condition. The prospect is very poor for clover seed—in fact, it will be a failure.

John Wright, Goderich, Huron: Hay and clover was secured in splendid condition, but it is a light crop. Cutting began the first week of July. There is a poor prospect for clover seed.

Hugh Murray, Bruce, Bruce: Hay and clover were both short, but what there was was saved in excellent condition. There is no growth as yet of clover for seed, but it may turn out good if showery weather continues.

James Shearer, Egremont, Grey: Hay is of all degrees of quality, from good down to that that was not worth cutting. It was all saved in good condition. No clover seed will be saved here.

James Ross, Oro, Simcoe: Hay was saved in first-class condition, but it is not more than half a crop on account of drouth.

R. Coad, Ekfrid, Middlesex: The condition of hay and clover was very varied—very good in some fields and pretty poor in others. Ours was very heavy. Nearly all the crop was saved in good condition. There are many fields prepared for seed. The flowers do not look good enough for me to trust the crop, so I am cutting for feed.

Alex. McFarlane, Norwich S., Oxford: The hay and clover crop was light as a rule. The continued drouth of 1887 seemed to have deadened a good many clover meadows, so that they gave a very small yield. The prospect for clover seed where the meadow was not killed is very fair, as the recent rains are pushing the second crop very rapidly. I do not think there will be much seed for shipment.

Wm. Douglas, Onondaga, Brant: Hay and clover was the worst crop we have had. I have never known it to be so light, but it was all well saved. There is no prospect at all for clover seed. The clover has been unhealthy here for four or five years, because of some insect pest. The chief cause of failure in the hay crop was the drouth last fall. The new seeding was all pretty much killed before winter.

John Campbell, Blanshard, Perth: Hay and clover was on the whole a light crop, but was saved in excellent condition. Clover fed off until about the middle of June promises to give a fair yield of seed.

Duncan McFarlane, Puslinch, Wellington: Hay was saved in splendid condition. It is of fine quality, but is a light crop. There is not a good prospect for clover seed.

Alex. Rennie, Wellesley, Waterloo: Hay was a light crop, but was got in in good order, and is of fine quality. Clover is scarce, and I think there will be very little seed cut here.

Robt. Dickson, Luther E., Dufferin: Hay is not half a crop, but it has been saved in good condition. There is no clover seed sown here.

A. H. Pettit, Grimsby N., Lincoln: Hay was well secured, but there was very little of it—scarcely a ton to the acre. The prospect for clover seed is not good.

Robt. Inksetter, Beverley, Wentworth: Hay was a very poor crop. The drouth of last year killed the clover plants and left only the natural grasses and weeds. There is no clover seed in these parts.

Colin Cameron, Nassagaweya, Halton: The crop is very light, but is well saved. There is scarcely any clover this year, owing to last year's drouth, so the prospect for clover seed around here is very poor.

Peter McLeod, Chinguacousy, Peel: Hay and clover was well saved, but the crop is a failure as to yield. Half a ton to the acre is too high an estimate. There is no clover for seed here.

A. Forster, Markham, York: The crop was short and thin (particularly clover), but was generally well saved. There is very little prospect for clover seed. Most of the Alsike was plowed up in the spring.

Albert Orchard, Reach, Ontario: Hay suffered most of all crops from a cold spring and dry weather, and the crop is very light. It will not run a ton to the acre, but what there is was saved in splendid condition.

Wm. Lucas, Cartwright, Durham: The hay and clover crop is very light—not more than half a crop. It was saved in prime condition. There is a very poor prospect for clover seed.

John Williams, Hamilton, Northumberland: The hay crop is the poorest ever known here. There is very little clover, but what there is has been saved in excellent condition.

Robt. Davison, Marysburg N., Prince Edward: Hay and clover was harvested in excellent condition, but the yield was small; it would not average more than a quarter of a ton per acre.

Robt. Metzler, Ernesttown, Lennox and Addington: Hay is not more than a third of a crop, and is saved in fine condition. There is no clover and consequently no seed.

Joshua Knight, Storrington, Frontenac: Hay was secured in first-class condition. It was not much trouble to do it as there was not more than a third of a crop. There is no prospect whatever for clover seed, there being no clover.

Isaiah Wright, Augusta, Leeds and Grenville: The hay and clover crop was never known so light in this locality, but it was secured in good condition. No clover seed is raised here.

A. Harkness, Matilda, Dundas: Hay was about an average crop, rather under than over. It was well saved, and the quality was excellent. We saved no clover seed here.

John Bennett, Roxborough, Stormont: The hay crop was saved in first-class condition, and there is a very good yield, although old meadows are rather thin.

P. A. Stewart, Lochiel, Glengarry: Hay and clover was cut and saved in good condition, and will be an average crop notwithstanding the drouth, as the beginning of the season was favorable for the growth of the crop.

Paul Labrosse, Hawkesbury E., Prescott: Hay and clover was good enough in rich land, while in poor land it was very small. It is too dry to expect a good crop of seed.

James F. Grierson, Torbolton, Carleton: Hay and clover is in very good condition, as it was well saved, but the yield is light. No clover seed is saved in this locality.

Robt. McLaren, Horton, Renfrew: The hay crop is light, but it was secured in prime condition. No clover seed was saved in this section.

J. K. Darling, Ramsay, Lanark: The hay crop is very short, being from 30 to 70 per cent. of last season's cut. It was generally well saved, but will weigh light.

John Campbell, jr., Mariposa, Victoria: Hay and clover is very, very light—not half a crop—but saved in first-class condition. Very few fields of clover are kept for seed, and the prospects are unpromising.

John Maloney, Douro, Peterborough: Hay and clover has been the poorest crop ever produced here, although it has been saved in good condition. There will be no clover seed, as there is no clover to produce it.

D. Galloway, Lutterworth, Haliburton: Hay was a light crop owing to the dry weather, and was cut and dried in good condition. Wild hay in beaver meadows was a full crop, and will to a great extent make up for the light yield of tame hay.

Anson Latta, Thurlow, Hastings: Hay is almost a total failure. A large portion is not longer than one foot and is very thin, but it was saved in good condition otherwise. The prospect for clover seed is very discouraging.

John H. Osborne, Stephenson, Muskoka: Hay was saved in good condition, but it will be short owing to the drouth.

Wm. Jenkin, Perry, Parry Sound: Some fields of low land turned out good, but in most cases it was very bad, drying up. Many acres were hardly worth cutting. The crop was well saved.

Joseph Alton, Strong, Parry Sound: The hay crop is light, but it was saved in excellent condition.

FROM THE NOVEMBER REPORT.

Arthur J. Arner, Gosfield, Essex: The clover crop on the whole is in bad condition. A few fields where pastured until about the middle of June did well. There was no damage from drouth or frost. The midge almost destroyed the crop where the first crop was taken off for hay.

John Bishop, Orford, Kent: Some pieces that were pastured were very good. There is not much of the second crop cut for seed, and what there was had very little seed in it. Most of it was cut for hay. The midge destroyed the seed.

Samuel Maccoll, Dunwich, Elgin: Clover for seed is a failure. In many instances it will not pay to thresh it, owing to the ravages of the midge.

H. J. Barber, Townsend, Norfolk: Clover has been a good catch generally. There is not much seed as the old crop was killed last year with drouth. The midge has been very destructive to clover seed.

Robt. Jepson, Walpole, Haldimand: Clover is poor. There will be little seed to thresh here, as last summer was too dry.

John A. Law, Stamford, Welland: The clover crop is an entire failure. No seed is raised in this township, as the midge has destroyed it all.

James Lovell, Brooke, Lambton: The raising of clover seed has been almost abandoned, owing to the midge and drouth these last two years.

Robt. Currie, Wawanosh E., Huron: There is very little clover for seed as the season was too dry. I hear of no midge this year. The seed is good, although there is so little of it.

Wm. Welsh, Huron, Bruce: There is a very poor show for clover seed. The drouth caused it to be very backward in July and August. A few fields revived, but very early clover was almost entirely destroyed by midge.

James Brodie, Artemesia, Grey: There will be no clover seed saved here, as the dry weather after haying caused a very poor growth.

Jos. Ball, Tiny, Simcoe: Clover made very little growth after haying because of the dry weather; consequently the clover crop will be a very short one. There has not been much midge.

R. Coad, Ekfrid, Middlesex: Very few patches of clover are considered worth saving, and nearly all has been fed or cut down. The midge was very bad.

Thos. Baird, Blandford, Oxford: There is no clover around here that will be fit for seed. The midge is the chief pest to red clover.

Henry Key, Oakland, Brant: I have seen but two fields of clover for seed this year, and these were light.

Wm. Courtice, Fullarton, Perth: The drouth set in about the time of the first cutting of clover, so it was too late before it got a start. It was also injured by midge.

Robt. Cromar, Pilkington, Wellington: There has been no second crop of clover this year. Pastures were never so poor.

Christian T. Groh, Waterloo, Waterloo : The failure of the catch of clover for the last year or two has left our meadows almost without that plant, and consequently there can be no seed. Some low patches may produce seed, but there will not be enough for our own use.

John Short, Luther E., Dufferin : Farmers turned their stock on to their clover fields on account of short pasture, and consequently there was no seed.

George Hart, Saltfleet, Wentworth : The clover crop is the most complete failure that was ever known in this township.

John Marshall, Nassagaweya, Halton : No clover has been grown for seed. All will be imported from the west of Ontario or Michigan.

James H. Newlove, Albion, Peel : There is scarcely a bushel of clover seed grown in this township. The fields have been damaged by drouth.

W. B. Terry, Gwillimbury N., York : There is a very poor return of clover seed. It was damaged by the midge and the drouth.

John Foy, Scugog, Ontario : This crop is almost a failure. I know of only three small fields saved for seed in the township. Clover was a poor catch owing to drouth, and the drouth this year finished it. There was some midge.

W. G. Rundle, Darlington, Durham : I do not know of a single piece of red clover for seed. Clover has been badly winter-killed for two or three years past, and it is exceptional to see a fair crop of it.

Platt Hinman, Haldimand, Northumberland : The condition of clover is good, but very little has been saved for seed. The drouth prevented most of the crops of clover coming forward after haying.

W. R. Leavens, Hallowell, Prince Edward : The crop is a very short one compared with previous years, but what there is seems to be well filled with an excellent quality of seed.

Allen Pringle, Richmond, Lennox and Addington : There is very little clover, as last year's seeding was killed by drouth. The modicum was fair.

S. Going, Wolfe Island, Frontenac : Clover was killed out by frost two years ago, and as seeding did not catch in the spring of 1887 there is no clover to produce seed. Seeding has also been a failure this year.

John B. Wilson, Leeds and Lansdowne Front, Leeds and Grenville : There is hardly any clover. The drouth has played havoc with the clover for the last two years. The latter part of summer and the fall have been favorable for the crop, but there was none in the ground to grow, having been killed by the early drouth.

John Taylor, Osnabruck, Stormont : There is no clover raised here just now. A few pounds are mixed with the timothy, and in a few years the clover is all gone.

P. Madden, Nepean, Carleton : We never raised much clover seed, but this year there is none.

Joseph Kinder, Brudenell and Lynedoch, Renfrew : The clover was so much damaged by drouth that the second crop was a complete failure.

Wm. Paterson, Ramsay, Lanark : The clover crop is the worst this year we have seen for a long time. The drouth in the forepart of the summer made the new meadows almost bare, and that sown this year is nearly all gone too.

James S. Cairnduff, Harvey, Peterborough : I know of but one field saved for seed in this township, and that was rendered almost worthless, first by drouth and then by the late rains.

Thos. J. Thompson, Rawdon, Hastings : There was not a field of clover cut for seed to my knowledge. The drouth caused it to be a failure.

FIELD ROOTS.

Notwithstanding the fact that the drouth was severely felt in the eastern portion of the province, and in the counties bordering on lake Huron and the Georgian bay, all the root crops, except carrots, exceeded the annual average yield, and carrots were by no means a failure. In the Lake Erie group the yield and quality of roots were the surprise and delight of the old settlers, who have not seen such crops since the days when the soil was in its virginity. Owing to the late harvest, and the rainy weather during the fall, roots were not housed as early as usual.

POTATOES.—The yield of potatoes is the best in many years. In some western counties there was an extraordinary growth of tubers, both as regards size and number. They were remarkably free from scab or other blemish, and several correspondents spoke of single potatoes weighing from two to three pounds. Rot was mentioned in but one or two places, and then on low, clay soils only. The almost incessant rains of October covered low-lying lands in several of the river counties for weeks, and considerable rot was reported, together with general difficulty in digging and storing. The bug did not fail to put in an appearance, but the Canadian farmers have learned how to deal with that pest. The average yield of potatoes for the province was large, being nearly double that of last year, and 23.2 bushels per acre more than the average for the seven years 1882-8. The table below shows the acreage and yield by county groups for 1888 and the previous year :

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie..............	15,356	2,314,015	150.7	14,880	690,415	46.4
Lake Huron.............	12,915	1,879,303	145.5	11,569	849,304	73.4
Georgian Bay...........	13,677	2,162,204	158.1	12,136	963,314	79.4
West Midland...........	26,341	4,264,170	161.9	24,051	1,860,523	77.4
Lake Ontario............	32,686	5,082,761	155.5	28,896	1,925,711	76.6
St. Lawrence and Ottawa	37,474	4,783,693	127.7	35,018	3,272,359	93.4
East Midland...........	12,501	1,438,438	115.1	10,963	764,638	69.7
Northern Districts.......	2,965	349,023	117.7	2,770	351,736	127.0
Totals..............	153,915	22,273,607	144.7	140,283	10,678,000	76.1

The acreage is slightly below the average for the seven years 1882-8, although it is decidedly larger than in 1887. The largest yield was returned from the West Midland counties, where 161.9 bushels per acre was the record. The Georgian Bay, Lake Ontario and Lake Erie districts also went over 150 bushels per acre. The smallest yield was in the East Midland counties.

MANGEL-WURZELS—The fall proved just the season for this crop, the copious rains producing a remarkably large yield of sound roots. Some injury was reported by the white grub in Middlesex, and a caterpillar did damage in Brant, but taking the province over, the yield was a magnificent one. The crop was stored early, and as fodder generally was short it will be an important factor in the successful wintering of stock. The acreage and yield by county groups for 1887 and 1888 are as follows :

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie..............	1,764	797,932	452.3	1,324	340,660	257.3
Lake Huron............	2,644	1,133,801	428.8	2,210	777,125	351.5
Georgian Bay	788	280,984	356.6	996	265,181	266.2
West Midland...........	7,342	3,681,673	501.5	5,947	2,216,396	372.7
Lake Ontario............	5,754	2,947,341	512.2	4,343	1,327,918	305.8
St. Lawrence and Ottawa	1,610	518,005	321.7	1,657	414,947	250.4
East Midland...........	1,485	646,523	435.4	1,253	311,084	248.3
Northern Districts.......	72	14,400	200.0	194	42,450	218.8
Totals..	21,459	10,020,659	467.0	17,924	5,695,761	317.8

There were more acres sown to mangel-wurzels in 1888 than in any of the previous years recorded by this Bureau. The total yield was larger than that of 1887 by 4,324,898 bushels, and exceeded the average of the province for the seven years 1882-8 by 2,194,443 bushels. While the average yield per acre was smaller than in 1886, it was larger than in 1887 by 149.2 bushels, and went 29.9 bushels over the annual average.

CARROTS.—This was the only root crop that fell below the average yield for the past seven years, although it came within five per cent. of the standard fixed by that period. It was more affected by the early drouth than any other of the roots, but its recovery during the fall was something remarkable. As in the case of turnips and mangel-wurzels, there was a decided increase in the acreage, and consequently the total yield is greatly in excess of that of the average year. The acreage and yield are given in the following table by county groups :

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie	932	295,100	316.6	748	139,513	186.5
Lake Huron	1,083	359,847	332.3	856	214,996	251.2
Georgian Bay	1,042	324,408	311.3	969	195,983	202.3
West Midland	2,437	857,836	352.0	1,973	537,486	272.4
Lake Ontario	3,224	1,281,328	397.4	2,175	530,363	243.8
St. Lawrence and Ottawa	1,702	418,532	245.9	1,435	298,293	207.9
East Midland	961	331,553	345.0	807	157,513	195.2
Northern Districts	143	29,980	209.7	147	31,539	214.6
Totals	11,524	3,898,584	338.3	9,110	2,105,686	231.1

Compared with 1887 there was an increase in area of 2,414 acres. The average yield per acre was 107.2 bushels more than in the previous year, but it fell short of the annual average by 14.9 bushels. The largest yield was in the Lake Ontario group, where there was also the largest acreage, and the West Midland district came second in both respects. In fact, of the 300,086 acres devoted to root crops in 1888, nearly one-half is found in the West Midland and Lake Ontario groups, the former contributing 73,002 acres, and the latter 74,959 acres.

TURNIPS.—When the August reports were received the turnip crop did not appear very promising. Drouth prevailed at the time of sowing, and much of the seed failed to catch, while a considerable portion of the remainder came up very late. The fly was very bad in different parts of the province, and thinned out many fields already poor from drouth, especially in Bruce and Grey, where a good deal was plowed up. The grasshopper did injury in Dufferin, but more still in the north-eastern section of the province, while a worm was reported as doing considerable mischief in Northumberland. The fall rains, however, effected a wonderful change in the condition of turnips. The growth was somewhat marvellous. Shower after shower swelled the bulbs and increased the tops to such an extent that the meagre rows of August could not be recognized in the luxuriant fields of October. The average yield per acre for the province was over 40 per cent. more than the poor product of the previous year, and 26 bushels more than was reported, together with general difficulty in digging and storing. The bug did not fail to put in an appearance, but the Canadian farmers have learned how to deal with that pest. The average yield of potatoes for the province was large, being nearly double that of last year, and 23.2 bushels per acre more than the average for the seven years 1882-8. The table below shows the acreage and yield by county groups for 1888 and the previous year :

Districts.	1888.			1887.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Lake Erie....	15,356	2,314,015	150.7	14,880	690,415	46.4
Lake Huron............	12,915	1,879,303	145.5	11,569	849,304	73.4
Georgian Bay..........	13,677	2,162,204	158.1	12,136	963,314	79.4
West Midland..........	26,341	4,264,170	161.9	24,051	1,860,523	77.4
Lake Ontario..........	32,686	5,082,761	155.5	28,896	1,925,711	76.6
St. Lawrence and Ottawa	37,474	4,783,693	127.7	35,018	3,272,359	93.4
East Midland..........	12,501	1,438,438	115.1	10,963	764,638	69.7
Northern Districts.......	2,965	349,023	117.7	2,770	351,736	127.0
Totals..............	153,915	22,273,607	144.7	140,283	10,678,000	76.1

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Lewis Marsh, Huntingdon, Hastings: Early planted potatoes seem fairly good, all things considered. Late will do well if rains come soon. Turnips suffered from the drouth and fly. Mangels are up to the average where the hoe and cultivator have been freely used. Carrots were much injured in the spring by an insect.

Edward Bray, jr., Stephenson and Stisted, Muskoka: Potatoes are looking very well. Turnips are nearly a failure owing to dry weather at the time of sowing, and the damage from grasshoppers later on.

FROM THE NOVEMBER REPORT.

George A. Wintemute, Maidstone, Essex: The potato crop is a good one and it has been dug and saved in good shape. Roots are not grown to a great extent, but what were sown have done extremely well, being of a very large size.

W. McKenzie Ross, Harwich, Kent: Potatoes are very good in every respect. There is no rot or anything else to hurt them. Turnips, mangels and carrots are good, but there are few raised here.

Samuel Maccoll, Dunwich, Elgin: The potato crop is the extreme opposite of last year, as it is a superb yield of excellent quality and is well secured for the winter. My nephew, in digging, found an immense Late Rose potato which measured 25x22 inches in its circumferences.

James Morrison, Walsingham, Norfolk: Potatoes were a good crop around here, and there was no injury by rot. Turnips are a fair crop. There are not many mangels or carrots grown.

John Senn, Oneida, Haldimand: There is no rot or injury of any kind to potatoes, and the crop is very large. Mangels and carrots are extra good. They have been pretty well secured, but owing to excessive rains there was much difficulty in taking them up.

John A. Law, Stamford, Welland: Potatoes are an excellent crop—the heaviest for many years. There is very little rot and that only on low clay soil. The weather has been rainy of late and retarded digging and other fall work. Turnips, mangels and carrots are excellent. On sandy soil the root crops have not been all taken up yet, and on clay soil not very many have been secured yet as it has been so wet.

John Dallas, Bosanquet, Lambton: Potatoes are of very good condition and quality, and are not injured from any cause. Turnips, mangels and carrots are a light crop but of good quality. Mangels were injured to some extent by cut worm and drouth.

Robt. Currie, Wawanosh E., Huron: Potatoes are a good crop, and there is no rot. Some late planted ones were excellent. What grew of the turnips were good, but on stiff clay soil there were many misses because the seed did not spring for lack of moisture at seeding. Mangels and carrots are good crops.

Robt. Russell, Greenock, Bruce: Potatoes are good and large and there is no rot. Turnips are good where they came up, but there are a great many misses. Mangels were an even crop, but not so large as in some years, as the rains did not come in time. Carrots are a good, large sample.

J. S. Black, Glenelg, Grey: Potatoes are an excellent crop. I have heard no complaint as to rot. Turnips are very good where there was a "catch," but a good deal of the seed failed to germinate. Mangels are good but the same cannot be said of carrots.

James Ross, Oro, Simcoe: Potatoes are a good crop of splendid quality, and are nearly all housed. Turnips are a good size but a light crop, as it was too dry at the first of the season. Mangels are a fair average crop, but carrots are a small yield.

Wm. Black, Westminster, Middlesex: The quality of potatoes was never better, they were both large and dry. In fact all the root crops are splendid. Turnips, mangels and carrots cannot be excelled, and as a rule were saved in excellent order.

Robt. Leake, Oxford, E., Oxford: Potatoes are entirely free from rot, and are the grandest crop we have had for years. Turnips are fair, but mangels are a good crop. But few carrots are raised, yet they are very good.

Duncan Stewart, Easthope N., Perth: Potatoes are good to very good, but rot is unknown this year. There are some good fields of turnips, but generally the size is below the average, and so also is the yield. On moist, rich places mangels are extra large, but on the whole they are of small size. Carrots are good—better proportionally than either turnips or mangels.

Albert Fyfe, Minto, Wellington: The condition and quality of potatoes could not be better, and the yield is very large. On account of the dry weather in the early part of the season the late potatoes did by far the best. Turnips, mangels and carrots are a fair crop.

Benjamin Devitt, Waterloo, Waterloo: Potatoes have never been of better quality in my recollection; there has been no rot or anything else to do them any injury. Turnips suffered from want of rain in the first part of the season, but lately they have been doing better and have turned out a very fair crop. Mangels and carrots (especially those got in early) are a very fair crop, and have been secured well.

Hugh McDougall, Luther E., Dufferin: Potatoes are in good condition. The quality is superior, and the yield was never before equalled in this section; no injury was done to them by rot or drouth. Turnips are of good quality and a fair yield, but would have been much better but they did not germinate soon enough and were retarded in growth by the dry weather. The same may be said of mangels and carrots.

Adam Spears, Caistor, Lincoln: Potatoes are excellent in quality and quantity.

Robt. Inksetter, Beverley, Wentworth: Potatoes are an excellent crop. There was no rot or injury of any kind. Turnips are a great crop where properly treated; mine will go a thousand bushels per acre. Mangels are a splendid crop. It is impossible to measure them by the bushel; we would have to do it by the cord. Carrots are not so good.

Wm. McDonald, Esquesing, Halton: Potatoes are a good crop. The quality is excellent, and there is no rot. Turnips are a good crop and so are mangels, but there are not many sown. Very few carrots have been put in.

James H. Newlove, Albion, Peel: Potatoes are an excellent crop; there is no damage whatever. Turnips are rather below the average, as it was too dry at the time of sowing. There are not many mangels or carrots sown in this locality.

D. James, Markham, York: Potatoes are of good size and the quality is excellent. Turnips, mangels and carrots are the best and largest yield we have had for several years.

Ralph Forsyth, Pickering, Ontario: Potatoes are splendid. I never saw a better size and quality and there is no sign of rot. Turnips are good, and mangels and carrots are an average crop. The weather has been very unfavorable for harvesting.

W. G. Rundle, Darlington, Durham: Bugs were more than usually plentiful this year, yet potatoes are a good crop, without any signs of rot that I have heard of. Turnips are of an even size and large and will be a good crop. Mangels are very large, and carrots are also a good crop.

John Miller, Haldimand, Northumberland: Potatoes are a good deal over an average crop, yielding from 150 to 200 bushels per acre, and they are of excellent quality. The other root crops are not so good.

G. N. Rose, Marysburg N., Prince Edward: Potatoes are good. I have only heard of one case of rot, and that was on very heavy clay soil.

C. R. Allison, Fredericksburg S., Lennox and Addington: The potato crop is splendid in this section, every man claiming that he has the largest potatoes. Many have been weighed in this neighborhood and turn the scales at 2½ pounds.

R. J. Dunlop, Pittsburg, Frontenac: Potatoes are a good crop generally, both in quantity and quality. There was some damage by rot in low, wet places. Turnips, mangels and carrots will be a light crop, but generally are of good quality. The drouth caused the plants to come up very thinly and uneven in the drills.

Isaiah Wright, Augusta, Leeds and Grenville: Potatoes were injured by the drouth, and wet weather setting in made it bad digging but the yield was good in quality. Turnips and mangels are a medium crop, but carrots are not raised to a great extent.

Alex. Farlinger, Williamsburg, Dundas: Potatoes in various places lay in water and suffered by rot. However, the average yield will be 200 bushels per acre, of good quality.

P. H. McDermid, Cornwall, Stormont: Potatoes are very good on high land. Some pieces on low land are injured by rot, but not to any great extent. Turnips, mangels and carrots are good.

Kenneth McLennan, Lochiel, Glengarry: On high land potatoes are a very good crop, but on low land they were rotted with continuous rains at the time of maturing. There is not much raised in the way of other roots.

Robt. Thistlethwaite, Hawkesbury W., Prescott: Potatoes were housed in good shape. There were not as many rotted as would be expected from the wet season. The crop is excellent, and so are turnips, mangels and carrots.

T. M. Robertson, Nepean, Carleton: Potatoes are very varied as regards yield. Some farmers have a splendid crop and others have scarcely enough for themselves. They were not injured by rot to my knowledge, but were hurt somewhat by drouth. Turnips, mangels and carrots are all a good crop of splendip quality. Most of the roots have been safely stored for the winter.

H. A. Schultz, Sebastopol, Renfrew: Notwithstanding the severe drouth early in the season potatoes held their own until the refreshing rains came, when they grew to be a large crop of A1 quality. Aberdeen turnips are above the average this year, but Swedes, which were sown earlier, suffered more from the drouth, yet they are an average crop. Mangels are heavier in yield than last year.

Wm. McGarry, Drummond, Lanark: The crop is somewhat better than last year, although the drouth affected the crop in some localities. There is no complaint of rot. Turnips have grown at a remarkable rate during the month, but in many patches the young plants succumbed to the drouth of summer. Mangels and carrots are not given much acreage, but they were a good crop.

James Dermott, Carden, Victoria: Potatoes are extra large, but not numerous in the hill; still they are a very good crop and no rot has been observed. Turnips and mangels are a fair crop, although they suffered from drouth.

F. Birdsall, Asphodel, Peterborough: Potatoes are a very good crop. In some places they were injured by the drouth, but I have not heard of any rot. The bug was plentiful, and lots of Paris green had to be used. Turnips have turned out a very fair crop—better than last year. The drouth stunted them in places, but they got a good growth in the months of September and October. Mangels and carrots were injured by the grub and drouth.

Alex. Southworth, Cardiff, Haliburton: Potatoes are of good quality, and early planted are a good crop. The late were caught with frost and injured by drouth. There is no rot. Other roots are about a half crop owing to the drouth.

J. C. Hanley, Tyendinaga, Hastings: Potatoes were secured in good condition and the quality is excellent. There is no rot. Feed being exceedingly short, potatoes will be fed to cattle in many cases. Turnips suffered from the drouth and the fly, although late sown did very well. There are not many mangels sown here. I will have 1,000 bushels per acre. Carrots suffered from drouth.

A. Wiancko, Morrison, Muskoka: Potatoes are of first-class quality and the yield is satisfactory on all well manured and well cultivated fields. Mangels and carrots are good, but turnips were injuriously affected by the drouth.

Hugh Jackson, Humphrey, Parry Sound: Potatoes are of good quality though poor on account of drouth, but there is no rot. Other roots are a failure.

COMPARATIVE YIELD OF FIELD CROPS.

AGGREGATE YIELD OF CROPS.—The past season completes the seventh year of the records by the Bureau of the agricultural productions of this province. In the table appended a comprehensive glance is afforded of the progress of total production of each crop for the seven years 1882-8, together with the annual average for the period. This mode of comparison depends upon the two variables, the acreage in crop and the yield per acre. The former has been dealt with in a previous chapter (page 7) and the latter will be noticed later.

Field Crops.	1888.	1887.	1886.	1885.	1884.	1883.	1882.	Average 1882-8.
	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.
Fall Wheat....	13,830,787	14,440,611	18,071,142	21,478,281	20,717,631	11,656,957	31,277,018	18,778,659
Spring Wheat.	6,453,559	5,633,117	9,518,553	9,129,881	14,609,661	9,726,063	9,665,995	9,248,119
Barley	23,366,569	17,134,830	19,512,278	16,533,587	19,119,041	18,414,337	24,284,407	19,766,436
Oats	65,466,911	49,848,101	58,665,608	55,229,742	57,696,304	54,573,609	50,501,701	55,997,425
Rye...........	1,295,302	894,887	1,106,462	1,271,506	1,648,259	3.012,240	3,473,799	1,814,636
Pease	14,269,863	12,173,332	16,043,734	14,006,192	13,691,607	10,673,723	11,006,115	13,123,509
Corn (in ear) ..	17,436,780	8,404,752	10,805,309	10,741,391	12,935,889	....	13,420,664	12,290,797
Buckwheat	1,222,283	1,025,353	1,678,708	1,530,675	1,484,570	....	1,262,973	1,367,427
Beans	534,526	275.975	482,072	496,564	592,044	....	409,910	465,182
Potatoes	22,273,607	10,678,000	16,012,358	21,091,144	27,546,261	16,400,782	18,432,145	18,919,185
Mangel-wurzels	10,020,659	5,695,761	8,787,743	7,660,729	8,655,184	6,252,015	7,711,420	7,826,216
Carrots	3,898,584	2,105,686	3,478,751	3,462.319	4,197,200	3,984,436	4,009,975	3,590,993
Turnips	47,640,237	31,413,456	47,061,053	41,137,735	44,406,363	29,879,354	35,359,331	39,556,790
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Hay & Clover..	2,009,017	3,093,610	2,994,446	3,252,155	3,044,912	4,115,535	2,090,626	2,942,900

Fall wheat and hay are the only crops in which the yield was less than in 1887. The past year was the poorest for hay of the seven, the drouth of 1888 proving even more disastrous to this crop than the spring frosts of 1882. The productions of oats, corn, mangels and turnips are the highest yet recorded. In only one year have the yields of fall wheat, spring wheat and buckwheat been less than in the past year, while the amounts produced of barley, pease, beans and potatoes have been exceeded only by a single year. Compared with the annual average, only five crops out of the fourteen are short, viz., fall wheat, spring wheat, rye, buckwheat and hay. In spring wheat alone is this result wholly due to diminution of acreage, and in hay alone is it wholly due to decrease of yield per acre. The production of wheat, though slightly higher than in 1887, is 7,742,432 bushels below the annual average, while barley shows an increase over the average of 3,600,133 bushels; oats, 9,469,486 bushels; pease, 1,146,354 bushels, and corn in the ear, 5,145,983 bushels. The crop of potatoes is more than double that of 1887, and 3,354,422 bushels more than the average. Carrots, mangels and turnips aggregate more in 1888 and less in 1887 than in any other year, the combined produce of the past year exceeding that of 1887 by 22,344,577 bushels, and showing an increase over the annual average yield of 10,585,471 bushels.

RATIOS OF AGGREGATE YIELDS.—In the following table the comparison of yields is simplified by representing the annual average yield for the seven years 1882-8 by 100 for each crop, and indicating the relation of the production of 1888 to the annual average by what may be known as a "per cent. ratio." These are shown in the following table for the various crops by groups of counties and the province, each group being compared with its own average:

Districts.	Fall wheat.	Spring wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buck-wheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzel.	Carrots.	Turnips.
Lake Erie	88	58	130	130	129	153	136	95	130	71	122	163	158	164
Lake Huron.	75	31	124	125	136	114	159	57	106	82	123	116	101	107
Georgian Bay	83	72	103	112	93	89	191	68	91	77	123	67	77	101
West Midland......	71	38	131	128	129	133	144	74	72	72	131	138	102	115
Lake Ontario............	55	79	126	121	82	112	154	131	95	49	141	132	120	137
St. Lawrence & Ottawa..	47	90	92	100	41	71	142	69	87	71	96	87	95	111
East Midland	86	66	99	95	60	66	155	84	116	56	97	157	131	146
Northern Districts.......	136	61	80	115	77	116	120	52	136	93	88	65	94	96
The Province.........	74	70	118	117	71	109	142	89	115	68	118	128	109	120

Thus, taking the two variables into consideration, viz., acreage and yield per acre, fall wheat is 74 per cent. of an average crop in the province, ranging from 47 per cent. in the St. Lawrence and Ottawa group to 136 per cent. in the Northern Districts. Corn has the highest ratio, or 42 per cent. above the average; while hay has the lowest ratio, or 32 per cent. below the average. The ratio of production of fall wheat (except in the Northern Districts), spring wheat, buckwheat (except in the Lake Ontario group) and hay are below the average in every group, while corn exceeds the average in every group, oats in every group except the East Midland, and turnips in every group except the Northern Districts. The number of crops exceeding the average is, in the Lake Erie group, 10; Lake Huron, 10; Georgian Bay, 5; West Midland, 9; Lake Ontario, 9; St. Lawrence and Ottawa, 3; East Midland, 5; Northern Districts, 5; and the province, 9.

RATIOS OF YIELDS PER ACRE.—The per cent. ratios of the average yields per acre of the several crops in 1888 to the annual average of the seven years 1882-8, are shown in the following table by groups of counties (each group being compared to its own annual average):

Districts.	Fall wheat.	Spring wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buck-wheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzels.	Carrots.	Turnips.
Lake Erie.......	91	117	121	114	109	123	118	102	120	70	132	114	112	111
Lake Huron	86	113	107	101	118	99	122	76	126	75	124	98	92	101
Georgian Bay............	93	114	88	88	92	81	116	92	84	70	124	85	85	92
West Midland	81	112	107	105	115	113	113	87	120	72	134	107	93	107
Lake Ontario............	70	120	100	105	98	99	119	111	104	51	136	115	105	116
St. Lawrence and Ottawa.	105	106	90	89	79	84	107	83	88	65	99	87	80	94
East Midland	101	93	87	83	91	67	115	95	105	55	94	111	107	110
Northern Districts	74	97	96	91	81	98	93	66	79	84	80	78	84	95
The Province	84	112	100	99	94	99	116	96	112	66	119	107	96	107

Of the fourteen crops named in the table, one-half failed to attain the average, though oats and pease came within one per cent. of it. Hay showed the poorest results, being only 66, ranging from 51 in Lake Ontario group to 84 in the Northern Districts. The best crop was potatoes, whose ratio reached 119, closely followed by corn (116), which failed an average crop only in the Northern Districts. Next come spring wheat and beans, each at 112, then mangels and turnips, each at 107, while barley just reached the average. In the Lake Erie counties only two crops fell below the standard of the group, fall wheat and hay, while in the Northern Districts not a single crop reached the annual average there recorded. The best showing is made in the West Midland and Lake Ontario groups, in each of which ten crops attained the average.

YIELD PER ACRE.—The following table gives the yield per acre of each crop by groups of counties in 1888, and for the province for the seven years 1882-8, together with the annual average for the period :

Districts.		Fall wheat.	Spring wheat.	Barley.	Oats.	Rye.	Pease.	Corn (in ear).	Buck-wheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzels.	Carrots.	Turnips.
		bush	bush	bush	bush	bush	bush	bush	bush	bush	tons.	bush	bush	bush	bush.
Lake Erie..	1888..	17.1	17.6	30.8	43.2	17.7	23.9	86.9	20.6	24.1	.97	150.7	452.3	316.6	399.1
	1882-8	18 8	15.0	25.4	38.0	16.2	19.4	73.4	20.2	20.0	1.38	113.8	397.9	283.8	361.0
Lake Huron ...	1888..	17.0	15.5	29.0	36.8	20.3	22.3	79.3	15.0	27.4	1.00	145.5	428.8	332.3	391.1
	1882-8	19.8	13.7	27.2	36.6	17.2	22.5	64.9	19.8	21.7	1.33	117.7	439.2	361.6	388.2
Georgian Bay	1888..	19.6	16.7	22.2	29.1	16.9	17.2	62.4	15.8	14.9	.85	158.1	356.6	311.3	366.8
	1882-8	21.0	14.7	25.3	33.0	18.4	21.2	53.8	17.1	17.8	1.21	127.7	417.9	366.1	399.6
West Midland .	1888..	16.2	16.5	30.5	40.7	19.2	25.1	76.8	19.0	25.3	1.05	161.9	501.5	352.0	444.6
	1882-8	20.0	14.7	28.4	38.7	16.7	22.3	68.1	19.6	21.0	1.46	120.5	469.6	378.2	414.1
Lake Ontario ..	1888..	14.3	19.9	26.3	39.1	14.5	20.0	71.7	24.7	23.2	.68	155.5	512.2	397.4	463.7
	1882-8	20.4	16.6	26.3	37.1	14.9	20.1	60.1	22.3	22.2	1.33	114.2	446.7	379.1	401.2
St. Lawr'nce & Ottawa.	1888..	18.8	17.9	21.9	29 5	14.2	16.0	58.3	19.3	21.4	.85	127.7	321.7	245.9	305.0
	1882-8	18.0	16.9	24.4	33.2	18.0	19.2	54.7	23.2	24.4	1.30	128.4	369.2	306.9	323.5
East Midland..	1888..	20.6	13.7	20.9	25.8	14.2	12.3	58.6	21.1	20 5	.64	115.1	435.4	345.0	372.8
	1882-8	20.4	14.8	24.0	31.0	15.6	18.2	50.9	22.2	19.5	1.16	122.3	393.3	322.5	340.3
Northern Districts..	1888 .	14.7	17.7	22.9	29.1	15.8	22.8	37.1	17.0	16.5	.97	117.7	200.0	209.7	289.0
	1882-8	20.0	18.3	23.9	31.9	19.5	23.2	40.0	25.9	21.0	1.16	146.9	257.8	248.4	304.3
The Province	1888..	16.7	17.5	26.1	35.4	15.4	20.5	78.2	21.2	23.5	.88	144.7	467.0	338.3	420.9
	1887..	16.1	11.6	22.3	29.6	13.1	16.8	51.3	16.0	13.6	1.36	76.1	317.8	231.1	298.2
	1886..	20.4	16.5	26.5	36.2	16.3	22.8	69.0	23.7	22.9	1.35	114.3	483.6	375.4	475.7
	1885..	24.5	11.4	27.7	35.8	16.2	21.7	64.0	24.8	20.1	1.43	132.0	466.1	383.7	402.1
	1884..	24.0	20.2	27.3	38.9	15.9	24.0	74.1	22.5	23.8	1.39	163.2	471.9	382 0	426.2
	1883..	10.6	16.6	24.3	38.5	16.0	19.7	.....	.....	.....	1.75	98.3	363.1	353.4	303.6
	1882..	26.3	16.5	28.6	36.4	18.7	19.6	64 9	25.2	20.7	1.14	114.7	488.3	402.8	448.6
	1882-8	19.8	15.9	26.1	35.7	16.4	20.7	67.5	22.2	20.9	1.33	121.5	437.1	353.4	394.9

The yield per acre is greater than in 1887 in every crop except hay, and the annual average is attained by spring wheat, barley, corn, beans, potatoes, mangels and turnips. In comparison with the yields of the seven years, corn holds first place ; spring wheat, beans and potatoes have been excelled by a single year ; pease, mangels and turnips come midway in the series, the averages of three years being above and three below that of 1888, while hay has touched its lowest point.

ONTARIO VS. AMERICAN STATES.—A comparison of the average yield per acre of cereals in Ontario and the principal grain-growing states of the American Union is presented in the following table for the seven years 1882-8:

Crops.		1888.	1887.	1886.	1885.	1884.	1883.	1882.	1882-8.
Fall wheat ..	**Ontario.....**	**16.7**	**16.1**	**20.4**	**24.5**	**24.0**	**10.6**	**26.3**	**19.8**
	New York.....	14.1	15.2	16.3	15.4	16.5	10.3	15.7	14.8
	Pennsylvania..	13.5	9.7	12.7	9.7	13.6	13.2	13.6	12.3
	Ohio	10.8	13.1	15.0	10.2	15.3	10.0	15.1	12.8
	Michigan	14.6	13.3	16.0	19.3	16.5	14.0	16.3	15.7
	Indiana	10.4	13.5	14.8	10.6	12.5	10.4	16.5	12.7
	Illinois........	13.7	15.2	13.7	8.5	11.6	10.0	17.7	12.9
	Missouri	12.0	16.2	13.2	7.4	11.8	10.1	11.8	11.8
	California	12.1	11.0	11.6	9.4	13.2	13.0	13.0	11.9
	Kansas	15.2	9.6	11.4	10.6	16.5	17.5	19.9	14.4
Spring wheat	**Ontario.....**	**17.5**	**11.6**	**16.5**	**11.4**	**20.2**	**16.6**	**16.5**	**15.7**
	Wisconsin	11.5	10.3	11.5	11.5	14.0	12.3	14.4	12.2
	Minnesota.... .	9.0	11.6	14.0	11.1	15.0	13.0	13.0	12.4
	Iowa	9.8	10.0	12.2	11.3	12.0	11.3	10.3	11.0
	Nebraska......	9.3	10.1	11.0	11.3	14.5	15.5	11.0	11.8
	Dakota........	9.7	14.3	11.5	12.8	14.5	16.0	15.9	13.5
Barley.......	**Ontario ....**	**26.1**	**22.3**	**26.5**	**27.7**	**27.3**	**24.3**	**28.6**	**26.1**
	New York.....	21.8	20.3	22.0	22.0	22.5	24.2	24.8	22.5
	Wisconsin	22.5	18.5	22.0	26.5	23.2	24.1	25.0	23.1
	Minnesota.....	18.5	19.0	22.0	23.8	24.2	22.9	23.3	22.0
	Iowa	21.0	19.0	22.5	23.0	22.3	21.9	22.6	21.8
	Nebraska......	22.5	21.0	22.0	23.4	21.0	22.1	23.0	22.1
	California	20.0	20.5	22.2	18.1	23.6	16.2	16.4	19.6
Oats	**Ontario ....**	**35.4**	**29.6**	**36.2**	**35.8**	**38.9**	**38.5**	**36.4**	**35.7**
	New York	28.1	23.5	28.7	27.9	30.0	31.3	29.9	28.5
	Pennsylvania..	26.5	25.5	28.7	26.3	27.9	30.6	27.3	27.5
	Ohio	31.8	30.0	32.4	37.3	28.0	33.9	26.4	31.4
	Michigan......	33.2	29.6	29.5	35.4	33.4	34.6	31.7	32.5
	Indiana	26.5	27.0	30.7	26.8	30.0	29.7	26.8	28.2
	Illinois...... ..	35.8	29.5	31.8	32.8	32.8	36.1	40.7	34.2
	Wisconsin	29.4	24.2	28.4	33.8	33.5	30.4	29.6	29.9
	Minnesota	28.7	30.0	34.4	34.9	35.2	33.1	35.7	33.8
	Iowa.....	26.2	30.5	34.1	33.8	36.7	34.1	31.0	32.3
	Missouri	25.2	29.3	23.4	22.3	26.7	28.7	30.1	26.5
	Kansas.	25.3	26.6	26.4	31.8	35.0	39.4	27.0	30.2
	Nebraska .	25.8	27.5	29.5	34.3	33.7	40.0	23.5	30.6

The same states have been selected as heretofore, in which the four named grains are staple crops. The averages for these states have been computed from totals of acreage and product as given in the annual reports of the United States Department of Agriculture, and like those of Ontario they are compiled from careful estimates and actual results of threshers. A glance will suffice to show that Ontario continues to hold its prestige as compared with the grain-growing states of our neighbors to the south and west. Fall wheat in Ontario in 1888, although 3.1 bushels below the annual average of the province, was 1.5 bushels above that of Kansas, which made the best record of any state. Michigan comes nearest to the annual average of this province, but is 4.1 bushels below. The best crop in spring wheat was in Wisconsin, being 11.5 bushels, or six bushels below that of Ontario. The annual average, however of Dakota for the seven years comes within 2.2 bushels of that of Ontario. Wisconsin is also Ontario's nearest rival in barley, but is 3.6 bushels below in 1888, and three bushels below in the annual average. Illinois leads Ontario in oats in 1888 by a fraction of a bushel, and is the nearest approach to our annual average, but is 1.5 bushels below. Michigan and Ohio come next in order with yields of 2.2 and 3.6 bushels respectively below that of Ontario in 1888, and 3.2 and 4.3 bushels respectively below Ontario's annual average.

FRUIT AND FRUIT TREES.

Vegetation was rather later than usual, but notwithstanding the trying weather of early spring fruit trees came through with little or no damage from frost. On account of deep snow adverse reports might have been expected regarding the ravages of mice, but few complaints have been received.

In their midsummer report correspondents stated that the drouth had left its effect upon orchard and garden. Early apples were small in size. The borer and codlin-moth put in an appearance, and some of the fruit was wormy. Mention was made of pear blight in some parts of Kent. Stone fruits were all light in yield. Only a few correspondents in Lincoln spoke cheerfully of the peach ; the majority of correspondents in the peach-growing counties regarded that fruit as a failure. Cherries and plums were reported as being rapidly destroyed by the black-knot, and where the plum escaped that enemy it was weakened by the curculio. In a few of the Lake Erie counties, however, a good yield of large cherries was reported. In the grape growing counties a magnificent yield was anticipated, but in Oxford and Brant the rose-bug attacked the vines as the grapes were budding, and wrought much injury. Other garden fruits were about an average, except strawberries which were hurt by the drouth of last summer and fall. In the county of Grey, where the huckleberry is regarded as a standard fruit, the crop was light.

The reports of the correspondents in the fall emphasised the statements made in the August report. A large yield of fall and winter apples was the rule, but the fruit was uneven in size and quality. In some sections the apples were described as clean and free from worms, but from many points complaints came of small sized, wormy fruit and heavy wind-falls. The codling-moth appeared in nearly every district, but owing to the large yield the injury done by this pest was not seriously felt. In fact so great was the yield in several of the western counties that branches were broken off by the weight of the fruit, and as it was impossible to find a market for fall apples thousands of bushels of good fruit were fed to stock to prevent waste. Pears turned out well. Correspondents again dwelt upon the fact that the curculio and the black-knot have all but exterminated the plum in many counties. The black-knot has been just as fatal in its assaults upon the cherry, and unless there is a more vigorous administration of the law regarding the treatment of this enemy there will be no end to the already monotonous complaints : " Plum trees nearly all gone," and " Not many cherry trees left." The late peaches were poor in yield and quality, and the " yellows " appeared in places. Grapes, as was predicted in August, were an immense yield, and the later small fruits were nearly an average.

Owing to the rains of August and September there was a great growth of new wood in orchard and garden, and fears were expressed by some correspondents that this unusually late growth might not be fully ripened by the time winter sets in. The area in orchard and garden is given in the following table for a series of years, together with the rate per 1,000 acres cleared :

'Districts.	1888.	1887.	1886.	1885.	1884.	1883.	1882.	1882-8	Rate per 1,000 acres cleared.	
									1888.	1882-8
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.		
Lake Erie	38,015	37,067	39,028	39,844	39,952	40,084	42,700	39,527	28.5	31.0
Lake Huron.....	20,342	19,874	19,946	19,925	19,952	19,907	21,478	20,203	16.2	17.4
Georgian Bay....	11,620	11,129	11,097	11,555	11,577	12,228	14,347	11,936	11.5	12.4
West Midland...	36,524	37,402	38,304	40.593	41,628	42,800	44,987	40,320	16.3	18.6
Lake Ontario	53,881	54,080	56,622	56,796	55,112	57,358	58,559	56,058	23.6	25.2
St. L. and Ottawa	11,733	12,401	12,375	13,145	14,320	14,760	19,028	13,966	5.2	6.5
East Midland ...	7,839	8,911	8,635	8,838	9,780	9,950	12,285	9,463	9.5	12.1
North'rn Districts	603	578	609	570	516	363	462	529	5.1	5.2
Totals.........	180,557	181,442	186,616	191,266	192,837	197,450	213,846	192,002	16.0	17.8

In 1882 the statistics given were compiled from returns of farmers made to the Bureau direct. In the several years since the figures are taken from the assessors' rolls. It will be observed that there is an unbroken succession of decreases as shown by these returns year after year, but the decrease in 1888 from the previous year is very slight. With the large increase of interest taken in horticulture the past few years, these figures do not show a creditable record of progress. As, however, the area is made up from small plots in the majority of cases, the omission of fractions would soon amount to numerous acres. Possible errors in the addition of rolls where there has been no revision (for which there is no provision in the Act) may be another factor in this apparent diminution. It, however, has been the practice of the Bureau to enquire as to the accuracy of all apparent discrepancies. The decrease in 1888 can alone be accounted for in the townships of Ameliasburg and Grantham by assuming that errors have been made by the assessors. The combined area in orchard and garden in these townships the past few years has been returned at over 3,000 acres, or 60 per 1,000 cleared, while the rolls for 1888 show but 1,811 acres, a reduction of about 40 per cent.

FROM THE MAY REPORT.

George A. Wintemute, Maidstone, Essex : Vegetation has just begun to make its appearance, although fruit trees have made no show as yet The spring is about two weeks later than usual.

Chas. Chute, Malahide, Elgin : The season is backward. Apple trees look all right. Peach trees are scarce. The crop of plums in this locality go to the curculio, and the red cherry trees are mostly killed by black-knot. The law is a dead letter, and the trees are ruined in most orchards. I have saved my own so far by prompt action in cutting out the affected limbs and burning them.

V. Honsberger, South Cayuga, Haldimand : Vegetation of all kinds is backward on account of cold, dry weather. The appearance of fruit trees is medium. Peach and cherry blossoms have been injured to a considerable extent by the cold of last winter. Apple trees have suffered but little from frost, but to some extent from the drouth of last summer. I find more dead limbs than usual, which I think we can attribute to the lack of moisture in the soil during last summer and fall.

Jesse Neff, jr., Warwick, Lambton : There is a fine prospect for the apple crop, but plums and cherries are suffering badly from black-knot. Peach trees have been damaged by hard frosts and over-bearing, so that only a small percentage of the fruit buds remain alive. Some of the more hardy sorts were not so much injured and are bidding fair to yield an ordinary crop. Small fruits have not been injured by the winter.

Geo. Fortune, Turnberry, Huron : The spring is very backward—fully two weeks later than last year. Apple and pear trees are looking well. No peaches and very few plums or cherries are now grown. The winter has not injured orchards.

Peter Reid, Kinloss, Bruce : Vegetation is rather backward owing to the cold winds which have prevailed for some time. Fruit trees appear to be all right. The buds are swelling fairly, and so far they have stood the winter very well.

Geo. Binnie, Glenelg, Grey: It has been an unusually cold and backward spring. Grass is just beginning to grow and forest trees to bud. There is neither blossom nor leaf yet on fruit trees, yet they are still alive and the winter does not appear to have affected them unfavorably.

Samuel H. Kerfoot, Tiny, Simcoe: Apple, plum and cherry trees appear healthy where looked after. No peaches are grown here. Judging by my own orchard of some 150 trees, fruit trees have wintered well.

William Wright, McGillivray, Middlesex: A good many apple trees are not in a healthy condition. No peaches are grown, and the plums are nearly all destroyed by black-knot. The cherries, I fear, are going to succumb to the same disease. As a rule the trees have stood the winter well.

Nicholas Smith, Oxford W., Oxford: The season is backward and there has been very slow growth. Apples appear to be all right. There are very few peach trees in this county. Plum and cherry trees have been nearly all destroyed by black-knot.

Chas. Masson, Eramosa, Wellington: Apple trees stood the winter well. The plums, however, are not doing well, and the cherry trees are nearly all gone with black-knot.

W. H. VanDuzer, Grimsby N., Lincoln: Apples, peaches and plums have a good appearance, and the two former make a good show of blossoms. Cherry trees are completely gone with black-knot, excepting a few sweet varieties.

Thos. Syer, Manvers, Durham: Fruit trees have not been injured by the winter. Apple, plum and cherry trees show signs of a good yield of fruit, but cherry trees in many places have been neglected and are badly affected by black-knot.

Allen Pringle, Richmond, Lennox and Addington: Apple and plum trees appear fairly well, but cherry trees have been much affected by black-knot. The trees were not much injured by winter.

G. D. Dixon, Matilda, Dundas: Fruit trees look well, except the cherry. It is a rare thing to see a tree that is not poisoned with black-knot. The law is not enforced as it should be in this respect.

FROM THE AUGUST REPORT.

Geo. M. Baird, Harwich, Kent: Apples will be a fair crop. Peaches are not yielding heavily. Cherries were in abundance and of fine quality. Grapes are a heavy crop. The supply of fruit will more than meet home consumption.

S. T. Pettit, Dorchester S., Elgin: The apple crop is only medium; it is pretty badly affected by worms and a good many are falling. We have no plums or peaches, and nearly all the cherries are dead from black-knot. Grapes promise well and small fruits are fairly well.

Robt. Watson, Windham, Norfolk: The apple crop is most abundant, and trees look healthy. There are few plum, peach or cherry trees in this part of the county. Grape vines are well loaded with fruit, and currants and gooseberries are very good.

F. A. Nelles, Seneca, Haldimand: Apples promise fairly; they will be better than last year. There are only a few plums and no peaches. Cherries have been destroyed by black-knot to a great extent, but some growers have had a large supply. Grapes promise a large yield. There is not much grown in the line of small fruits.

John A. Law, Stamford, Welland: Apples and plums are an average crop, peaches are poor, but cherries are in abundance. Grapes promise to be a fine crop, and so do all small fruits, although strawberries were a partial failure.

Wm. S. Howell, Sombra, Lambton: Owing to the extreme drouth last year but few blossoms were formed, and at blossoming time this spring the weather was inclement. So there will be a light crop of apples and plums and no peaches. The yield of cherries was not quite up to the average. Grapes are doing well—beyond expectations. Currants and gooseberries were a fair crop, but raspberries, blackberries and strawberries were rather too light to meet home consumption.

Frank Morley, Usborne, Huron: Apples, plums and cherries blossomed well. Apples are a good crop, but are badly affected by the worm. Plums are scarce. Cherries were also a thin crop, and most of the trees have gone with the black-knot. Small fruits turned out extraordinarily well.

W. G. Ritchie, Greenock, Bruce: Apples promise an abundant crop. The black-knot has killed off most of the plum trees. There are plenty of currants and raspberries but strawberries are a failure.

Thos. Abercrombie, Euphrasia, Grey: Apples will be plentiful enough for home use and a good many to ship. Plums are not plentiful, but what there are are good. Cherries have done well, and grapes promise to be first-class where they have been properly attended to. Small fruits have done middling, although the dry weather injured everything.

George Sneath, Vespra, Simcoe: There is a good crop of apples. The curculio has destroyed the plum crop, and our cherry trees are nearly all destroyed by the black-knot. The law in the case is never enforced. You may see trees in the farmers' gardens and orchards covered with it, and wild cherry trees on the road-side in the same state, no one interfering. Grapes promise well, but other small fruits have yielded a slim crop through the dry weather. The fruit crop will more than supply the local demand.

James A. Glen, Westminster, Middlesex: Early apples are plentiful and good, but winter apples are only a medium crop although the quality is good. Plums are scarce. The trees are young, as the old ones were killed off by black-knot. There are no peaches. Cherries were very good. If people cut out the black-knot and burn it they would save their trees; I have not lost one. Currants and berries have done well.

Alex. McFarlane, Norwich S., Oxford: Apples are in plenty and of fine sample. Plums, peaches and cherries are a scarcity from black-knot and cold winters. Grapes were killed in the blow by a raid of rose bugs that seemed to take them off all at once, so that fruit will be light in yield. Currants were light. Berries were hardly up to the average in quantity but were excellent in quality.

Thos. A. Good, Brantford, Brant: Apples are better than for several years. There are very few plums as they have been hurt by insects, and there are no peaches. There are hardly any cherries, as most of the trees are dead. Grapes promise well, but currants and strawberries are a light crop. Raspberries are very fair.

Thos. Maguire, Wallace, Perth : Apples promise to be a full crop. There are no plums or peaches. Cherries have done very well, although the black-knot showed to a great extent. Only a few of the hardiest kinds of grapes will show here. Small fruits were only a medium crop owing to the rain.

George Cushing, Arthur, Wellington : Apples are heavily laden. Plums will be scarce : black-knot is a great trouble. Cherries were small this year and yielded fairly, but lots of black-knot. Not many grapes grown. Currants and gooseberries were good, but raspberries rather scarce.

Benj. Devitt, Waterloo; Waterloo : Apples appear to be a fair average crop. Pears are looking well. Plums are not so plentiful, as they were injured greatly by curculio. Cherries are nearly all killed with black knot. Grapes are looking well and small fruits generally have done fairly.

Wm. M. Kiernan, Mulmur, Dufferin : Apples are a fair crop, though small through drouth, and the codlin moth hurt them much. It is an off year for plums, and they are a poor crop. Cherries are an excellent crop, especially the early Kent. There will be many apples for export.

A. H. Pettit, Grimsby N., Lincoln : Apples will be a good crop—nice, clean and smooth. Plums will be a light crop. Peaches and cherries are light. Grapes are extra good and small fruits generally have turned out well, with the exception of strawberries.

E. D. Smith, Saltfleet, Wentworth : Apples are a very heavy crop and fine and smooth in quality. Plums are only a medium crop, and peaches and cherries are very light. Grapes are a fair crop.

F. J. Sleightholm, Toronto Gore, Peel : Apples are a good average crop, although the codlin moth is on hand as usual. Plums are not so heavy a yield as last year. Black-knot has settled the cherries. Grapes are large, well developed and abundant. All small fruits have yielded plentifully and are of excellent quality.

A. Forster, Markham, York : Apples are fully up to the average in both quality and quantity. Plums are scarce and there are very few cherries. Grapes make a good show. Gooseberries were plentiful, but currants and other berries were scarce on account of the drouth.

R. S. Webster, Scott, Ontario : The prospect is good for winter varieties of apples. Black-knot has ruined nearly all the plum trees, as only a few of the old hardy varieties are left. There was a fair crop of cherries, but the trees have been badly injured by black-knot. Grapes, currants and gooseberries are a fair crop, but are grown here only for local trade.

Walter Riddell, Hamilton, Northumberland : Apples blossomed well, but the crop will not be large. There will be a good crop of pears but few plums. Cherries gave a good yield where the trees were not destroyed by black-knot. Small fruits are an average crop.

G. N. Rose, Marysburg S., Prince Edward : I think the apple crop will be very nearly as good as last year. Plums are scarce and so are peaches and cherries. Grapes will give a prodigious yield. Currants and berries are a fair crop.

Isaiah Wright, Augusta, Leeds and Grenville : Apples are likely to be a poor crop. The trees blossomed to excess and were injured in consequence. There are very few plums. Small fruits are good.

A. Harkness, Matilda, Dundas : Apples promise well, though late. Plums are fair, but black-knot has ruined the cherry trees. Grapes are abundant where grown. Other small fruits are about an average except raspberries, which were scarce.

Thos. McDonell, Charlottenburg, Glengarry : Apples are a bountiful crop, and so are cherries, but plums are not so good. Small fruits generally are a good crop.

Robt. Thistlethwaite, Hawkesbury W., Prescott : Small fruits turned out well where properly cared for. Apples will be a fair average, but there are very few plums. There is a good prospect for grapes.

H. A. Schultz, Sebastopol, Renfrew : Apples will be a big crop this year. but plums are not so good a crop as last season. Currants have done fairly well. Strawberries, on account of the cold spring weather, were not much. Raspberries, strange as it may appear, were very plentiful. even though the season was so dry.

J. K. Darling, Ramsay, Lanark : There are not many fruit trees in this section. Grapes look well and promise a good crop. but strawberries have been almost a total failure. Currants and gooseberries were a good crop where well cared for, and sold at good prices. The supply of fruit generally is short here.

T. Beall, Lindsay, Victoria : Apples are above the average in yield, especially winter sorts, but plums are below an average. Cherries are but little grown here. Grapes give promise of being the best crop ever grown in this vicinity. Strawberries are a total failure. Raspberries—red and white—half a crop : black would have been above the average but for the drouth. Berries are not much more than half their proper size.

Anson Latta, Thurlow, Hastings : A great many apples have fallen off the trees, but enough are left for home consumption. Plums have nearly all fallen, though well loaded at first. The black-knot has killed all the cherry trees. There will be a fair yield of grapes, but other small fruits are short.

James Kay, Stephenson, Muskoka : Apples are good on the few trees that are in this part of the country. Plum blossoms were injured by frost in May. Grapes are few but good. Other small fruits are below the average.

FROM THE NOVEMBER REPORT.

James H. Brown, Colchester S., Essex : The condition of fruit trees is much better this year than last. There was considerable injury by insect pests, but none by storms, blight or frost. The supply of fruit generally has been sufficient, and the quality is superior to last year.

W. McKenzie Ross, Harwich, Kent : Fruit trees are going into winter quarters in very good condition. The blight was not so bad after all. Apples are not of the best quality ; they are spotted and badly shaped, yet there is a surplus of this fruit.

Ed. Heal, Yarmouth, Elgin : Fruit trees are to all appearance good and healthy. Plums are almost extinct and cherry trees are growing less yearly with the black-knot. A few peach trees are reported dead from the dryness of 1887. The grape crop was very good. Apples are a fair crop but somewhat wormy. Pears are a large yield and no disease is reported.

G. W. Newman, Walsingham, Norfolk : Many apple trees are gradually dying. The black-knot is very prevalent among plums and cherries, and some pear trees have suffered from blight. There has been a great surplus of apples.

Isaac Overholt, Cayuga S., Haldimand : Apples were considerably injured by the codlin moth, and plums were injured to about the same extent by curculio. With the exception of wormy apples the quality of fruit was good. There was a surplus of apples, pears and cherries.

John A. Law. Stamford, Welland : The condition of fruit trees is good. There was very little loss by insects or blight. All fruits were in abundance with the exception of strawberries, and the quality was good. There was a surplus of apples alone of over 6,000 or 7,000 barrels in this township.

Robert Rae, Bosanquet, Lambton : Fruit trees were damaged by an early fall of snow which broke off many loaded branches. The supply of apples is large, but other fruits are under the average in yield. It was rather dry for fruit generally in the growing season.

John Burgess, Turnberry, Huron : Apple trees were broken down in many places by the load of fruit. Plums are nearly all dead from black-knot and other causes. A good many apples are wormy. There is a surplus of apples, and many will be shipped or fed to cattle.

Jacob Seegmiller, Brant, Bruce : Trees are in good condition, and there were less insects than usual. We never had so large a crop of apples. There are far too many fall apples grown, and thousands of bushels will be fed to cattle, or made into cider. Other fruits were sufficient for home consumption.

John Booth, Normanby, Grey : The plum is gone, and the pear was a very small crop, but the apples yield well. They are the greatest crop I ever saw and of good quality, but there is no market. They are selling at 15 cents a bag, where a bag can be sold. Thousands of bushels are going to waste.

Peter Stewart, Williams W., Middlesex : A great many apple trees were destroyed by snow falling and being allowed to remain on leaves and branches. Some orchards were almost ruined from this cause. Otherwise the trees are in good condition. There is a surplus of apples and a great many are being shipped, but other fruits are scarce.

D. R. Calder, Nissouri E., Oxford : Apple trees are in good condition, and have given the largest yield in years. Cherry trees are nearly all dead with black-knot. Apples are so plentiful that thousands of barrels are fed to cattle and pigs, and thousands more are packed for export.

Archibald Dawson, Oakland, Brant : Fruit trees have been weakened by drouth, and the black-knot is finishing the cherries and plums. Plums have also been badly injured by curculio. There has been a surplus of apples, pears, currants and raspberries.

Wm. Courtice, Fullarton, Perth : Fruit trees have been injured very much by storms of wind—apple trees especially, as they were heavily loaded with fruit. This fall we had a snow storm before the apples were picked, and owing to the weight of the snow and fruit large limbs were broken and in some cases trees were destroyed. There will be a large surplus of apples, but they will be rather small as they were so thick.

Duncan McFarlane, Puslinch, Wellington : There are a number of fruit trees dying. The black-knot on plum and cherry trees and the borer on apple trees have been doing much damage. The surplus of apples is very large and the quality is good.

W. C. Smith, Wilmot, Waterloo : The yield of apples this year is the best we have had in many years. They are rather small, but are free from worms. Probably about 3,000 bushels have been packed for the English and Manitoba markets. Large quantities of apples have been fed to the cows and pigs owing to their abundance.

Wm. Dynes, Mono, Dufferin : Fruit trees are looking fine. A good deal of damage has been done to fruit by insects. Apples are an excellent crop, but are so cheap that they are not worth taking to market.

A. H. Pettit, Grimsby N., Lincoln : Fruit trees are in good condition. Probably one-third of the apple crop will be considered second class, being stung by the codlin moth. There was a surplus of fruit, and the quality of all was good with the exception of peaches.

Robt. Inksetter, Beverly, Wentworth : Apple and pear trees are all right, only a good many broke down under the weight of fruit. The plum trees are nearly all dead. I think they exhausted themselves last year. A great many apples have been bored by the codlin moth. The supply is far more than the demand, and we will have to feed them to the cattle and pigs. The quality of fruit generally is very good, and there will be a surplus of apples and pears.

John Marshall, Nassagaweya, Halton : The condition of apple trees is healthy, and the yield is more than an average. Plums are a total failure. The quality of fruit has been good this year.

John Sinclair, Chinguacousy, Peel : The drouth has slightly injured fruit trees, and apples have been injured by the worm. There is plenty of fruit for home consumption and a surplus of apples.

D. James, Markham, York : The borer is making inroads in some apple orchards, and the blight on pear trees is serious in some localities. The quality of fruit is very good. There was a surplus of apples, pears, currants and raspberries.

W. A. Peters, Hope, Durham : Trees are in good condition. Apples are a little wormy, but we have had no wind storms to blow them off this year. There will be a surplus of apples and pears, and the quality is good.

John Williams, Hamilton, Northumberland : Cherries are still badly affected by the black-knot. Plums are also slightly injured by the same, and the curculio has also done damage. Both these fruits are scarce. There is a surplus of apples and plums.

A. J. File, Ameliasburg, Prince Edward : Fruit trees have made a good, healthy growth. There was a deficiency of small fruits, but the quality was good. Apples are an unusually heavy crop, so much so that barrels cannot be prepared in sufficient numbers in which to pack them. There is a very large surplus.

Allen Pringle, Richmond, Lennox and Addington : Fruit trees generally are in good condition. The black-knot in cherry, curculio in plum and borer in apple trees did some damage. The codlin moth also injured the apple. The quality of fruit is fair. There will be a surplus of apples only.

R. J. Dunlop, Pittsburg, Frontenac : Fruit trees are generally in good condition. Insect pests have done considerable damage, especially the codlin moth to the apple crop. The pears have been affected by blight. There will be plenty of fruit for home consumption, but the quality is only middling.

G. D. Dixon, Matilda, Dundas : A number of trees were damaged by a hail storm which passed over this section early in the season, and many of the apples were injured from the same cause. There will be a surplus of apples.

G. E. Shaver, Osnabruck, Stormont : A good many apple trees were blown down by a storm. Apples and grapes are more than sufficient for local consumption, and they are of splendid quality.

Harrison Cross, Hawkesbury W., Prescott : Plum trees have been injured to some extent by black-knot. Apples are an abundant crop here. There is a large surplus, but no market.

John Scott, Goulbourn, Carleton : It was a hard summer on fruit trees on account of the drouth and storms. Apples are chiefly raised and did fairly well after the rain came in August. There has been about sufficient fruit raised for local consumption.

Thos. Beall, Lindsay, Victoria : Fruit trees of all kinds are in an excellent condition, with the exception of the unprecedented spread of the oystershell bark-louse. The loss by this pest has been insignificant this year, but unless the proper remedy is vigorously applied next summer apple trees in this locality will be seriously injured. The loss by codlin moth has been less than in previous years. Summer apples were a very light crop, but those of autumn and winter varieties were unusually good. Pears have been a better crop and of better quality than were ever produced here before. The grape crop was injured by cold nights and changeable weather during August and September ; many failed to ripen before the frost set in.

J. M. Drummond, Otonabee, Peterborough : The borer seems to be killing off a great many apple trees, and even maples six inches through have been killed. The black-knot is playing havoc with the cherry trees. There is a surplus of apples.

Anson Latta, Thurlow, Hastings : Fruit trees have withstood the trying ordeal of drouth and are looking well. A small percentage have been uprooted, and others have had limbs broken off by heavy winds. The fruit supply is sufficient for home use and to spare. The apples are a little under-sized yet sound and good. Apples and pears are most abundant.

John Hollingworth, Watt, Muskoka : Trees are in a thrifty and satisfactory condition. A few were injured by a storm in June. Apples and grapes, which are the only fruits cultivated here, were of good quality and fair in quantity. We have no surplus fruit. Our huckleberry and strawberry crops this year were failures.

FALL PLOWING.

Plowing was not as far advanced as usual when correspondents forwarded their reports for the November bulletin. This was owing chiefly to the late harvest, and the anxiety in some quarters to get the grain threshed and so be ready for any movement in the market. In some of the western counties the packing of apples, husking of corn and the attention to roots also proved pressing, while the showery weather which prevailed in October made plowing almost impossible for weeks together in portions of Dundas, Stormont and Glengarry. In a few of the Lake Ontario counties and in the West Midland group the work was well advanced, but taking the province over fall plowing was fully a week later than usual. In the eastern half of the province the area plowed was reported as much greater than usual, as many old meadows were plowed up on account of the failure of hay and clover during the past two or three years.

FROM THE NOVEMBER REPORT.

T. F. Kane, Maidstone, Essex : Very little plowing has been done yet. The care of corn in this part prevents much plowing being done in the early part of the fall.

F. B. Stewart, Raleigh, Kent : We have only just got fairly started, but plowing is easy now.

Samuel Maccoll, Dunwich, Elgin : Plowing for spring crops is being well pushed, so that another week of favorable weather will about complete it.

W. W. Wells, Woodhouse, Norfolk : Plowing is progressing slowly, the ground being so very wet.

F. A. Nelles, Seneca, Haldimand : Plowing is about half done. There has been so much rain that stubbled ground cannot be plowed. Sod on high land plows well, but it is mostly stubble land to be plowed.

D. Schooley, Bertie, Welland : Plowing is very backward on account of too much rain.

Silas Mills, Sarnia, Lambton: Considerable plowing has been done, and much more will be turned as the farmers realize the importance of the work with regard to the next season's crop. The land is in better order for plowing than it has been for seasons past.

John Anderson, Wawanosh E., Huron: Considerable plowing has been done, but most of it will be plowed next spring as the thistles are very bad here.

John Craig, Amabel, Bruce: Quite a lot of plowing has been done, as the weather has been favorable.

Malcolm Cameron, Bentinck, Grey: Plowing may be considered backward. There is a great deal to do yet, as the wet and broken weather has retarded the work greatly.

Thos. Porter, Nottawasaga, Simcoe: The wet weather has delayed plowing greatly, especially on heavy land; still there is a good deal done.

James A. Glen, Westminster, Middlesex: Fall plowing is very backward, as there is a great amount of corn husking, root and apple gathering, as well as hindering weather.

S. C. Tuttle, Oxford E., Oxford: There has not been as much plowing done as usual at this season of the year on account of the unsettled weather.

A. Freeman, Burford, Brant: Fall plowing is very backward owing to rainy weather, which has prevailed nearly every day for a month.

Douglas Martin, Downie, Perth: Most of the stubble land has been plowed. Root land and sod is to be plowed yet.

John Rea, Eramosa, Wellington: Plowing is well advanced, and some are going over it the second time.

W. C. Smith, Wilmot, Waterloo: Not half of the plowing has been done yet, as nearly every farmer has been threshing and marketing his grain in preference to turning the soil.

H. H. Pearson, Mulmur, Dufferin: The farmers here have not very much plowing done as yet, as they have been threshing and teaming their grain.

W. H. VanDuzer, Grimsby N., Lincoln: As the harvest was late and there was plenty of potatoes, apples, corn, etc., to look after, plowing has been put back, but farmers are now getting a good start.

E. D. Smith, Saltfleet, Wentworth: Not a great deal has been done, as people have been busy gathering apples, grapes, corn, roots, etc.

Wm. F. W. Fisher, Nelson, Halton: Hardly as far on as usual at this date, but farmers are all at it.

John Sinclair, Chinguacousy, Peel: Fall plowing is progressing rapidly, and in a few more days it will be completed.

Angus Ego, Georgina, York: Considerable plowing has been done but there is much to do yet. On account of wild oats, etc., farmers must use the gang-plow more, and this method keeps plowing late.

Joseph Picket, Uxbridge, Ontario: The plowing is not as far advanced as at this time last year.

Thos. Syer, Manvers, Durham: Fall plowing is well ahead. Most people now try to plow the greater part of their tilled land twice over for wheat, barley and oats.

Thos. Dodds, Monaghan S., Northumberland: Plowing is nearly all done. I never saw so much done before at this time of year.

H. Welbanks, Ameliasburg, Prince Edward: Farmers are nearly through with fall plowing. Another week will finish the most of this work.

C. R. Allison, Fredericksburg S., Lennox and Addington: A larger breadth than usual has been sown this fall. The land worked fine.

A. Knight, Kingston, Frontenac: Nearly double the amount of plowing has been done this fall compared with previous years, on account of the meadows giving out.

Gideon Fairbairn, Edwardsburgh, Leeds and Grenville: Plowing has been stopped lately on low land owing to the wet. The high land intended for spring crops is nearly all plowed.

James Collison, Matilda, Dundas: Some plowing has been done, but not so much as in other years. It has been very wet, raining almost every day since the beginning of September.

John Taylor, Osnabruck, Stormont: There is little plowed except sod on high land. Some fields are so flooded that cattle sink six or eight inches as they work and no plowing can be done.

D. B. McMillan, Lochiel, Glengarry: Very little plowing is being done, as the ground is soaked with water.

Joseph Kyle, Hawkesbury E., Prescott: There will be a great extent plowed this fall, except where the land is very wet. Some began to plow immediately after harvest.

Henry Armstrong, Clarence, Russell: Farmers are well advanced with fall plowing and all kinds of fall work.

James Wallace, Gower N., Carleton: The soil is in good condition for plowing and the farmers are fitting up a good deal for spring seeding.

Charles Ross, Bromley, Renfrew: A large area of fall plowing has been done—more than ever before in this section.

J. K. Darling, Ramsay, Lanark: A good quantity of fall work has been done, but the rain has hindered it considerably.

Fred. Train, Somerville, Victoria: A good deal of plowing has been done, and all are at work.

Wm. Gohm, Macaulay, Muskoka: There has been the largest amount of plowing done for spring crops I have ever seen.

UNDER-DRAINING.

Under-drainage is steadily gaining in favor as its advantages become known, yet this department of farm improvement scarcely made average progress throughout the province during the season, owing to the succession of dry summers and the consequent light crops and lack of funds. The soil being in most cases hard and lumpy, many were deterred from undertaking a work which would require a large outlay at the time, yet the drouth enabled some to lay drains in the swampy portions of their farms where otherwise they could not have carried on the improvement. Tile, which is generally used, has not yet supplanted lumber and stone in some north-western and eastern counties. The supply of tile, on account of the limited demand, has always been reported sufficient, and no complaints are made as to its quality. Skilled labor seems to have been adequate with very few exceptions; in fact the scarcity seems rather of work than of workmen. Tile-draining machines are not yet in general use, and some report that they have not proved very profitable.

FROM THE NOVEMBER REPORT.

Arthur J. Arner, Gosfield, Essex: Very little has been done this year in under-draining. The supply of tile is quite sufficient, as was the supply of skilled labor. Tile-draining machines are in use in this neighborhood.

Robt. Wilkie, Harwich, Kent: Under-drainage is progressing here. Most of the farmers are doing a little as they can afford it. Tile is plentiful, but not cheap. Skilled ditchers are scarce.

Sheldon Ward, Malahide, Elgin: There has not been as much tile-draining done this season as last. There is plenty of tile and to spare and no lack of skilled labor. No machines are used.

John A. Law, Stamford, Welland: Very little under-draining has been done this season. There is only one tile-draining machine in this section that I know of, and that has been used but very little since it was purchased.

James Lovell, Brooke, Lambton: Under-draining is working a revolution in farming around here. Large quantities of tile are being put in every year. Farmers generally are in favor of that kind of drainage, as there is plenty of tile at reasonable prices. Work is chiefly done by hand.

George Baird, sr., Stanley, Huron: A considerable amount of under-draining has been done. Lumber is chiefly used. Tile can be got in the adjoining township. There are some tile-draining machines in this section, but there use is very limited on account of stony bottoms.

Hugh Murray, Bruce, Bruce: More or less under-draining is being done every year, but nowhere on a large scale; a good many are still using lumber as tile is not plentiful. There are two or three draining machines in use with very satisfactory results.

Alex. Macpherson, Proton, Grey: Very little under-draining has been done, and wood and stones are mostly used as no tile can be procured within a reasonable diatance.

Wm. Black, Westminster, Middlesex: There has not been as much under-drainage done this year as usual. There is plenty of tile and sufficiency of skilled labor. Teere are a few tile-draining machines in this part, but the drains are mostly made by hand labor.

John F. Tribe, Dereham, Oxford: A good deal of under-draining has been done during the past year. The supply of tile was equal to the demand. Skilled laborers for this work are scarce and wages high. Tile-drainage machines are not much used as they have not proved satisfactory.

Robt. Beatty, Blanshard, Perth: There has been a good deal of attention given to draining of late years, and the work has been going on about as usual this year. No tile-draining machines are used.

Christian T. Groh, Waterloo, Waterloo: Farmers are taking advantage of the township grant for tiling, and more has been done this year than in the last three years together. There are no tiling machines in this section.

Erland Lee, Saltfleet, Wentworth: Under-draining seems to be done by fruit growers only in this township. There is plenty of tile and labor. People seem to favor the sub-soil plow to dig drains with.

D. B. Nighswander, Markham, York: Very little under-draining was done as the ground was dry and hard. Tile can be easily obtained. Machines are not used to any considerable extent. The work is mostly done by skilled ditchers.

Louis P. Hubbs, Hillier, Prince Edward: A good deal of under-draining has been done this summer. We cannot get any tile at all; stone is almost entirely used here.

R. J. Dunlop, Pittsburg, Frontenac: Tile draining is not very extensively used in this township. Under-draining is generally done with stones as there is an abundance of that material on almost every farm. The supply of labor was generally sufficient. There are no tile machines in this district.

Alex. Farlinger, Williamsburg, Dundas: There is not much tile draining; surface draining receives all the attention. The Ditches and Watercourses Act of 1883, was just what farmers wanted for this section of the country.

James Wallace, Gower N., Carleton: There has not been much under-draining done here yet. What few drains have been made are piped with plank, as tiles are not yet in use here.

Wm. Paterson, Ramsay, Lanark: A good deal of under-draining has been done of late, but not a tithe of what should be done. Tile is plentiful, but there are no draining machines around here.

Wm. Armstrong, Otonabee, Peterborough: Farmers are beginning to drain extensively. Owners of farms and their hired help are getting to be expert at making drains and laying tile.

THRESHING AND MARKETING.

At the time correspondents forwarded their reports (Oct. 27) threshing was well advanced generally, and in some localities it was nearly completed. In a few eastern counties some gave preference to plowing and other fall work, but more were influenced by the rise in the price of grain, and operations in threshing and marketing were very active in those groups where wheat and barley were most largely grown. Barley moved more freely than wheat, as the upward tendency of the price of the latter induced many to hold for an advance. Pease and oats were not marketed largely, as they were kept for feeding purposes to a greater extent than usual owing to the failure of the fodder crops, but in those localities contiguous to lumber camps oats were sold early. The rain delayed operations to some extent in a few of the river counties, as it was very necessary to save the straw owing to the shortage of hay. In some districts bad roads, and in others fall plowing where the weather was fine, have retarded the marketing of products.

FROM THE NOVEMBER REPORT.

Israel Desjardins, Tilbury W., Essex: Threshing is pretty well all done, and there is a big rush to market at present.

John Bishop, Orford, Kent: Threshing is nearly done and the best half of the wheat has been sold. There is very little barley in the neighborhood. Beans are mostly sold but pease and oats are held for feeding and for a rise in price.

Wm. Clark, Aldborough, Elgin: Wheat is nearly all threshed and is being marketed quite lively. I have heard of no other grains being marketed to any considerable extent, except pease, which were picked up as soon as threshed.

John McLean, Woodhouse, Norfolk: The threshing of grain is pretty nearly done, but owing to the wet fall retarding farm work the bulk of it has not been marketed yet.

Robt. Jepson, Walpole, Haldimand: Most of the farmers have their threshing done and have been busy hauling the grain to market, but the wet weather has delayed progress somewhat.

W. E. Morrison, Brooke, Lambton: Wheat is mostly threshed and is being sold rapidly on account of good prices. Barley and other grains are mostly all threshed, but very little has been marketed.

John McMillan, Hullett, Huron: Threshing is nearly all finished. A small quantity of wheat has been marketed. Barley and oats are marketed about as usual, and have been going into market very freely during the past few days.

W. G. Ritchie. Greenock, Bruce: Threshing is nearly all done, but not much has been marketed yet, as farmers are holding for advanced prices.

John McCallum, Bentinck, Grey: Threshing is pretty well finished. Considerable wheat and barley has been sold. Oats and pease will chiefly be consumed at home owing to the shortness of fodder.

Wm. Sutherland, Gwillimbury W., Simcoe: Threshing of grain is about completed in this section, and much of it was done earlier in the season than in former years on account of the rise in wheat and barley. A good deal of barley has been teamed, but farmers are more inclined to hold on to their wheat.

Wm. Watcher, Dorchester N., Middlesex: Threshing is about done. Not much grain is marketed yet as farmers are busy with their fall work and have an idea that wheat will be higher. Barley and oats are what the farmers are raising money on just now.

James, Malcolm, Zorra E., Oxford: Threshing is nearly done. A good deal of wheat has been sold, but the barley market is just opening. Very little of either oats or pease has been sold; they will be kept for feeding cattle and hogs on the farm.

D. McCormick, Brantford, Brant: Threshing is nearly over, and wheat is nearly all marketed. About two-thirds of the other grains will be needed for feed on account of the scarcity of hay and straw.

Thos. Steele, Downie, Perth: Nearly everything is threshed, but not much wheat has been sold yet as farmers are expecting higher prices. A good deal of barley has been sold.

H. McDiarmid, Puslinch, Wellington: Threshing is nearly all done, but marketing has only fairly commenced. Barley is the only grain which has been largely sold as yet.

Levi Witmer, Waterloo, Waterloo: Threshing has been nearly completed in this locality. Barley has been sold at very fair prices. Wheat is very slow in moving as most farmers are busy securing their corn or roots.

Jonathan Varcoe, Amaranth, Dufferin: Very little wheat has been sold as there is not much to sell. Wheat is not now our staple. A good deal of barley has been sold, also a few oats and pease.

W. H. VanDuzer, Grimsby N., Lincoln: Threshing is nearly completed. The marketing of wheat was very light, although most of it was sold when it reached $1 a bushel. Barley is about three-fourths marketed at date (Oct. 19).

Erland Lee, Saltfleet, Wentworth: Threshing is nearly completed. Farmers are marketing pease and barley very rapidly.

Daniel McLaren, Nelson, Halton: Threshing is very nearly done. As for wheat there is very little to sell. Some barley has been sold, but there is still a good deal in the hands of the farmers.

James H. Newlove, Albion, Peel: Threshing is about finished. Only a small amount of wheat has been marketed as yet, but there is not much to sell. Barley is probably about half marketed. There is very little of any other grain to sell.

George Evans, jr., Georgina, York: More threshing and marketing has been done this year than usual. Owing to the high price of wheat more than half the wheat remains in farmer's hands yet, but the bulk of the barley has been marketed.

Robt. H. Shipman, Brock, Ontario: Threshing will be finished earlier than usual, but marketing is rather slow. Farmers are looking for an advance in prices.

Thos. Syer, Manvers, Durham: Threshing is about completed. The machines did not appear to have as much to do this year as usual. Considerable barley has been put on the market, but there is not much moving at present.

George Kennedy, jr., Haldimand, Northumberland: Threshing is about through, but little wheat is going to market yet. Barley is moving freely.

Robt. Davison, Marysburg N., Prince Edward: Threshing is done, but there is very little wheat marketed—in fact, there is only a little for sale. Barley and the other grains are just beginning to move.

C. R. Allison, Fredericksburg S., Lennox and Addington: Threshing is about finished. Barley has not began to move yet, though it is later than we generally ship.

Robt. Anglin, Pittsburg, Frontenac: All grains are threshed, but very little is marketed, as farmers are not inclined to accept the prices offered.

James Moulton, Leeds and Lansdowne Rear, Leeds and Grenville: A large amount of wheat has been threshed, but not much sold. Good progress has been made in threshing and marketing barley. Very little other grain has been sold.

Alex. Farlinger, Williamsburg, Dundas: The fall has been too wet for general threshing. Farmers want to save the straw for feed and bedding.

G. E. Shaver, Osnabruck, Stormont: Very little wheat or barley has been threshed, but a large quantity of oats has been threshed and marketed.

Joseph Kyle, Hawkesbury E., Prescott: There has been very little grain threshed in this locality, owing in part to the state of the roads, which are almost impassable, and partly to farmers being late getting in their root crops.

T. M. Robertson, Nepean, Carleton: Threshing is about over, but owing to the hurry of fall work and bad roads not much marketing has been done as yet. Some barley has been sold for export at railway stations.

Wm. Paterson, Ramsay, Lanark: The threshing is pretty well over, and wheat is beginning to find its way to market. There will be no other grain to market in this section.

John A. Jackson, Eldon, Victoria: A considerable quantity of wheat has been threshed and marketed, but a larger proportion of barley has been disposed of. Oats and pease are still mostly unthreshed.

Wm. Armstrong, Otonabee, Peterborough: Some have threshed and are selling wheat and barley; but in our neighborhood we do not do much in that line until winter, as it would interfere with the fall plowing. We would rather take a less price and sell in winter.

J. C. Hanley, Tyendinaga, Hastings: Wheat is all threshed, but there is very little for sale. Barley is the only grain for sale, and very little is sold.

GENERAL REMARKS.

The following are taken from the general remarks of correspondents:

FROM THE MAY REPORT.

Robert Manery, Mersea, Essex: I would like to have the experience of as many as possible of your correspondents on hedges for fencing, as they will have to take the place of rails very soon. Is Ossage Orange the best? Is it better to sow the seed in the fence rows, or raise the plants and set them out? Will it do to sow seed in the fall?

Jasper Golden, Gosfield S., Essex: An impression largely prevails amongst farmers to sow less wheat and go more into corn to make pork and beef, as well as being a crop from which general support for man and beast can be derived. It is a very safe crop, and the fodder is excellent for horses and cattle. The hobby in this locality this year is large horses.

S. T. Pettit, Dorchester S., Elgin: The thanks of the people are due to the Legislature of Ontario for the interest manifestedi n the preservation of the clumps, here and there, of forest trees remaining on the farms. It is a suicidal policy to denude the country of her natural forests.

Joseph Martindale, Oneida, Haldimand: A number of farmers in this neighborhood are getting portable blast forges to do their own blacksmithing. I think it will pay, as a great deal of time is lost running to the blacksmith shop with small jobs, and farmers are beginning to learn that their time is valuable.

Silas Mills, Sarnia, Lambton: Considerable tile draining has been done this spring, and our township council are about passing a by-law to take advantage of the Tile Drainage Act, so as to assist farmers to drain their farms. For every $100 borrowed an annual payment of $7.36 pays off principal and interest, with the privilege of paying principal off at any time.

J. B. Hobbs, Warwick, Lambton: There are too many inexperienced workmen coming out, to the injury of our best men. The only immigrants who can do well here are those with sufficient money to start farming. We are over-supplied with poor and incompetent immigrants.

James Weatherhead, Lindsay, Bruce: It was the best season for maple sugar that we had for the last eight years. It was the first year I ever saw ice on the trees the first day of May.

John Glaspell, Tiny, Simcoe: The farmers around here are taking quite an interest in the dairy business; a large creamery and cheese factory has lately been built. This is taking a step in the right direction.

John Darby, Vespra, Simcoe: We are greatly in need of a reliable variety of spring wheat that we could depend upon, like the old Fyfe.

Wm. Sutherland, Ekfrid, Middlesex: There is too much land plowed, and not sufficient sod for pasture. Fall wheat does not pay, yet the sowing of it reduces the hurry of spring work, and the feeding value of the grain on the farm is beginning to be seen.

Wm. Riddell, Nissouri W., Middlesex: The sugar-making season has been longer than usual, having extended over four weeks with a good flow. We tapped 235 trees and got 800 lb. of sugar.

Martin Emigh, Norwich N., Oxford: If our Ontario farmers could be induced to set out more trees for wind breaks, winter wheat and clover would be much better.

F. Malcolm, Blandford, Oxford: Spring wheat seems to be a thing of the past in this neighborhood, as we have yet to hear of a field of this grain being sown. It has been a losing crop for years.

Charles Masson, Eramosa, Wellington: In the township of Eramosa we are raising very little wheat for sale, and going more into horses, cattle, sheep and pigs, which we feed with our pease, oats and barley. We find it better to feed the grain to the stock than to sell it.

D. James, Markham, York: The quantity of maple syrup made this season was quite large.

Wm. Spence, Reach, Ontario: I have lived in this county since 1851, and I think, with one exception, I never saw the soil in a better shape to receive the several kinds of grain, etc. There has been considerable under-draining done, which accounts a good deal for the dryness of the soil.

Alex. Farlinger, Williamsburg, Dundas: The English sparrow is very injurious to the wheat crop while maturing. We cannot drive them off the fields, as they rise and light at, say, fifty to sixty feet on the grain again, and do not leave the field. The large, open drains, made according to the Act of 1883, are doing immense good, causing low lands to be cleared up fast. Wire fences are fast taking the place of the old, crooked rail ones.

Peter Bolton, Russell, Russell: The spring has been cold and dry, very little rain having fallen as yet. This has been the best season for making maple sugar that we have had in twenty years. At one time we feared for the safety of the trees, so prolonged and continuous was the flow of sap. Thousands of gallons of syrup have been made here.

P. Madden, Nepean, Carleton: The spring has been very favorable for farm work; the ground is dry and the weather fine. Last year's seeding for meadows will have to be all plowed on account of the dry season.

H. A. Schultz, Sebastopol, Renfrew: The past winter was remarkable for its cold, unbroken condition from beginning to end. The usual January thaw did not put in an appearance and the water supply was limited, some people being compelled to drive their cattle many miles to water.

J. M. Kennedy, Alice, Renfrew: Wheat growing is fast becoming a failure here, and there will be little sown in this township beyond enough for home consumption.

William Brownlie, Dalhousie, Lanark: Some farmers here have turned out from 1,000 to over 2,000 pounds of maple sugar. Sap commenced to flow on March 28th and continued until April 25th.

James Maitland, Montague, Lanark: Farmers are sowing less wheat and going more into dairying, the chief reason being that wheat can be produced so much cheaper in the Northwest. I think there will be more coarse grain sown this year than last.

A. R. Kidd, Dummer, Peterboro': If we get a moderately moist summer the prospect is fair for the farmer, as the soil is friable and singularly exempt from excess of moisture in subsoil. Another season as dry and non-productive as last summer would bankrupt the majority of farmers in this section of the country.

Stephen Kettle, Glamorgan, Haliburton: Owing to the prevalence of north winds this is a much later spring with us than last. The ice on the lakes only went out on May 5th.

John B, Morton, Huntingdon, Hastings: The principal industry in this township is the manufacture of cheese. The early "make" at least will be very much below the average, owing to the condition in which the cows were kept before turning out to pasture.

James Kay, Stephenson, Muskoka: There is a falling off in sowing wheat. Flour is cheap, and we are so liable to August frosts here that people find it more profitable to sow oats.

D. McFarlane, McDougall, Parry Sound: Snow was very deep and has lain long on the ground, the ground being white on May 1st. Cattle have been fed for seven months, but there is a prospect of a good season.

W. H. Green, Sinclair, Parry Sound: Your report on bees and minerals is likely to be of great service.

FROM THE AUGUST REPORT.

Horatio N. Scratch, Gosfield, Essex: I think a great many farmers allow their grain to get too ripe before cutting. This affects the quality of the grain and straw, and causes a great loss by shelling.

Edward Nash, Mersea, Essex: If every farmer would plant a row of trees on the west side of his farm we could raise more wheat and fruit. I think I have never seen a season when the benefits of shelter was more noticeable than in the present year.

F. A. Nelles, Seneca, Haldimand: We have had a few lectures from Agricultural College professors, which had a good effect, and if these able lecturers were to address agriculturists oftener it would be a great benefit.

James Thompson, Warwick, Lambton: There is one crop growing in this locality not enumerated in the above, and that is—Canada thistles. I think the self-binders are a curse to many farmers instead of a blessing, for some are getting so lazy they will not cut a thistle so long as the machine will bind them, and and thus thistles are polluting the whole neighborhood.

John Dallas, Bosanquet, Lambton: The only crop that is raised here not included in the above is flax, of which there is a considerable amount raised in this township; but as it is all carried away from the land, root and branch, it must in time exhaust the already overtaxed soil.

Benj. Shirreff, Amabel, Bruce: There are some beautiful patches of flax around here. It seems to have done well this year.

James A. Glen, Westminster, Middlesex: As a general thing more land has been plowed this year. Owing to the depression in the cattle trade of last season cattle are coming in favor. Dairying is on the increase, and hog raising follows as a matter of course. There is more tree planting both for food and shelter. If our wheat fields had been well sheltered last winter, we should have reaped the finest wheat crop that Ontario has ever seen.

Robert Forrest, Elma, Perth: The farmers in this part have started a joint stock company for the purpose of manufacturing their flax into dressed flax. The mill is now running full time and the crop is good.

Thos. Maguire, Wallace, Perth: There is considerable flax grown in this township. The fibre is shorter than usual this year. Mill men gave notice in the spring that the price paid would only be $10 per ton, while heretofore it was $12 per ton.

George Cushing, Arthur, Wellington: There is one thing should be urged very strongly upon our farmers, and that is the necessity of sowing more green feed, so that in a season like the pressnt the cattle would have something to depend on besides the pastures. We have an excellent dairying country, only the season is too short. A great many do not feed their cows anything more than they can hunt for themselves.

A. Kaufman, Wilmot, Waterloo: The flax crop seems to be good both in seed and fibre, and is now being pulled. A good average was sown this season.

A. H. Pettit, Grimsby N., Lincoln; Fodder corn is being more extensively grown than formerly and promises a most abundant crop, which will make up to a great extent for the shortage of hay. I think our farmers' institutes are doing a good work.

E. D. Smith, Saltfleet, Wentworth · A good deal of money is made in the twenty-five miles between Hamilton and Grimsby in growing garden stuff for canning and pickle factories. In my own neighborhood I can count 50 acres of sweet corn, 25 of tomatoes, 20 acres of marrowfat pease, 20 acres of cucumbers, besides acres of string beans, onions, etc.

Simpson Rennie, Scarborough, York: The spread of mustard, wild oats, wild tares, rag weed, couch grass and various other weeds is something alarming. Could anything be done in the way of appointing government inspectors whose duty it would be to go around among the farmers and destroy or cause to be destroyed any noxious weeds wherever found growing.

S. Hinman, Cramahe, Northumberland: A good many are running into small fruits and hops, and some are raising tomatoes, pease and beans for the canning factory at Lakeport, which is the means of bringing quite an amount of money into the country.

Samuel N. Smith, Sophiasburg, Prince Edward: Many farmers are beginning to plant tomatoes and sweet corn for canning factories and say it pays them well, and helps to improve their land. If it were not for this I do not know what many poor people would do, as they now get employment in these factories and seed houses.

Wm. J. Hinchley, Sheffield, Lennox and Addington: Most of the farmers in this section now sow a piece of western corn for their cows, which keeps up the milk flow when the pastures begin to fail and on through the fall. Cheese is the staple dairy product, and were it not for their cows many farmers would not make enough to live on this year.

W. J. McNaughton, Lancaster, Glengarry: Farmers are growing a considerable quantity of fodder corn for summer use. Farmers' institutes are doing good work.

FROM THE NOVEMBER REPORT.

Arthur J. Arner, Gosfield, Essex: The prospect for the farmer, I am happy to say, is brightening. The season has been a most favorable one and with the advance of prices in nearly every article that the farmer of this section produces we have every reason to rejoice. I wish I could believe that every part of Ontario were as much favored as we have been.

John Gordon, Harwich, Kent: I think you could get a more complete return of all grain and seed by compelling every man who owns a threshing machine to take out a license, and make a return every two weeks.

C. Riselay, Bertie, Welland: Owing to the failure of grass seed the past two years, it will be necessary for farmers to sow corn or some other green crop next spring to supply the deficiency.

Amos Doupe, Usborne, Huron: Sparrows are increasing very rapidly, and are getting to be very destructive. They should be destroyed.

Wm. Welsh, Huron, Bruce: Each year shows us the need of shelter for our fields. Usually about one-half of the fall wheat and much of the grass is destroyed by winter exposure, and unless there is an effort made to arrest this by planting belts of timber the injury will become greater every year.

Archibald Thompson, Orillia, Simcoe: There have been some wonderful crops of fall wheat in this section this year. One farmer, of the township of Oro, had about 43 bushels to the acre, and grew about 30 acres of it.

W. D. Stanley, Biddulph, Middlesex: The apple crop is the largest this section of country has ever known. About 15,000 barrels will be shipped by rail from Granton.

J. W. Whealy, Nissouri E., Oxford: Considerable flax is sown in this township. If it were not so exhausting on the land it would be one of the best paying crops. Millet, Hungarian grass and Western corn are largely sown to help the hay crop which has been light.

George Leversage, Fullarton, Perth: Farmers have no reason to complain this year that while wheat has not been a uniformly good crop all other crops have been bountiful, prices are fairly good and farmers are cheerful.

Charles Masson, Eramosa, Wellington: There is a smile on the farmer's face that has not been there for some years. The reason is good crops and high prices. If the prices of the meat market are only kept up, we as farmers have great reason to be thankful and happy.

George Hart, Saltfleet, Wentworth: The hay crop has been one of the lightest we have had for years and spring crops have been the best that have been harvested in this section in twenty-five years. With present prices we will find ourselves in a good financial position at the end of the year.

Wm. Kersey, Toronto Gore, Peel: This season has been a very remarkable one. When the grain was being harvested it looked to be not half a crop of some years, but when it came to be threshed the wonder was where the grain came from, there was that much more than the most sanguine ever expected.

D. James, Markham, York: More attention should be given to poultry raising. The profits of the arm are sure to be increased by producing plenty of eggs and poultry.

Allen Pringle, Richmond, Lennox and Addington: On the whole the season has been a disastrous one for this county, for although the root crop is good and the fall pasture splendid farmers sold off much of their stock at ruinous prices before the rains commenced,

L. U. Phelps, Bastard, Leeds and Grenville: On account of the increased price of wheat many farmers are now fitting the ground for spring wheat, and there is a prospect of a large acreage being sown.

C. Robertson, Caldwell, Muskoka: We are at a loss for male animals of pure breeds to improve our stock.

STATISTICS OF
THE WEATHER AND THE CROPS.

THE WEATHER.

TABLE No. I.—Showing for each month the highest, lowest, mean highest, mean lowest, and mean temperature at the principal stations in Ontario in 1888; also the annual mean for each station.

Temperature.		Saugeen.	Birnam.	London.	Wood-stock.	Stony Creek.	Toronto.	Lindsay.	Graven-hurst.	Ottawa.	Rockliffe.
		°	°	°	°	°	°	°	°	°	°
January.	Highest	38.2	39.0	40.8	41.5	49.0	41.1	39.6	43.0	37.2	31.9
	Lowest	—10.0	—19.0	—16.5	—22.8	—6.0	—11.9	—30.6	—32.0	—23.6	—41.6
	Mean highest	21.9	21.7	21.9	21.6	......	22.6	16.3	17.9	11.7	9.8
	Mean lowest	6.4	7.1	6.7	3.7	.....	6.9	3.8	—5.3	—5.3	—5.0
	Monthly mean	15.1	14.4	15.6	16.4	15.9	15.0	7.4	7.1	3.1	—0.8
February.	Highest	43.0	43.8	44.0	42.9	44.0	43.2	42.5	44.0	37.4	42.9
	Lowest	—16.1	—23.0	—15.6	—24.0	—12.0	—16.1	—29.8	—29.6	—32.9	—46.0
	Mean highest	25.4	27.9	29.5	28.6	......	29.0	25 9	26.3	22.3	21.5
	Mean lowest	8.4	13.2	11.7	9.7	......	13.7	5.1	3.7	1.0	—7.7
	Monthly mean	18.6	20.5	21.4	20.8	23.4	21.9	16.5	16.4	12.1	8.2
March.	Highest	48.1	58.7	55.1	56.6	56.0	48.3	43.6	44.0	45.4	45.5
	Lowest	—10.2	—21.0	—10.8	—8.4	0.0	—1.2	—16.3	—17.0	—3.7	—18.6
	Mean highest	28.8	30.1	31.3	30.4	......	29.5	27.1	28.2	28.3	26.1
	Mean lowest	10.0	14.9	14.6	12.1	......	15.1	9.4	8.0	12.2	3.7
	Monthly mean	19.8	22.5	24.0	21.4	25.2	22.4	18.6	17.7	21.0	16.7
April.	Highest	79.0	85.7	83.3	84.2	86.0	76.3	83.8	78.0	82.9	70.7
	Lowest	13.1	15.4	18.1	11.9	20.0	21.2	15.3	8.0	12.1	—3.6
	Mean highest	44.3	49.9	50.8	50.0	......	47.5	47.4	44.4	45.8	43.5
	Mean lowest	27.4	28.6	29.3	28.8	......	30.9	27.2	25.7	27.3	21.3
	Monthly mean	35.8	39.2	38.9	39.9	41.2	38.9	36.8	34.9	37.2	33.9
May.	Highest	82.1	82.3	78.7	79.3	78.0	74.1	81.5	80.0	82.5	82.1
	Lowest	25.1	24.4	28.6	30.8	36.0	32.9	26.9	26.0	30.0	21.1
	Mean highest	57.0	65.0	62.3	62.9	......	59.5	63.5	61.6	64.7	61.7
	Mean lowest	39.2	41.5	43.1	40.4	......	42.4	41.6	40.1	44.2	38.6
	Monthly mean	48.0	53.2	52.9	52.6	50.3	50.6	51.4	50.9	55.2	51.9
June.	Highest	87.0	93.0	88.2	92.0	93.0	92.0	98.0	94.0	94.9	91.7
	Lowest	33.6	30.0	36.1	35.4	49.0	40.5	33.9	26.0	39.4	32.9
	Mean highest	71.6	77.5	73.4	77.2	......	75.4	80.4	78.1	78.3	77.6
	Mean lowest	49.8	51.7	53.3	52.4	......	53.4	50.8	51.7	54.7	49.5
	Monthly mean	61.1	64.6	64.8	65.8	67.3	64.4	65.5	64.7	68.0	65.0
July.	Highest	87.0	89.0	86.0	88.2	90.0	87.7	91.0	87.0	87.9	90.3
	Lowest	39.6	40.8	44.1	44.0	53.0	47.3	40.6	42.0	48.8	39.1
	Mean highest	73.5	79.3	76.6	79.7	......	76.6	81.5	78.4	81.0	78.8
	Mean lowest	53.2	53.0	55.3	52.2	....	55.7	49.9	52.3	55.8	50.0
	Monthly mean	62.7	66.2	69.1	68.4	68.3	66.2	65.7	66.1	70.3	64.5
August.	Highest	86.5	89.9	86.4	89.1	92.0	84.9	89.6	85.0	88.4	87.2
	Lowest	38.1	34.8	37.9	36.0	52.0	47.3	39.5	40.0	45.4	35.1
	Mean highest	71.7	77.7	76.8	79.4	.....	76.1	78.7	75.6	76.5	74.0
	Mean lowest	53.6	54.3	56.0	52.7	.....	56.5	52.2	51.6	55.5	50.0
	Monthly mean	62.0	66.0	68.4	62.9	70.1	66.0	64.6	64.7	66.5	60.9
Septem'r.	Highest	77.0	84.0	80.0	88.1	83.0	77.6	79.8	79.2	76.1	76.8
	Lowest	32.9	31.4	33.1	31.8	37.0	32.1	25.7	29.0	29.5	26.3
	Mean highest	62.5	68.3	67.0	69.7	......	65.6	67.4	66.6	65.1	64.6
	Mean lowest	44.7	44.8	45.5	43.0	......	47.6	42.0	44.1	46.7	42.1
	Monthly mean	58.4	56.6	57.7	56.0	57.9	56.5	53.6	54.8	55.7	50.9
October.	Highest	64.0	70.3	61.5	63.8	68.0	62.2	62.6	62.0	56.5	59.8
	Lowest	24.6	23.9	25.2	26.0	32.0	28.3	21.6	22.0	25.3	21.1
	Mean highest	49.8	50.8	50.8	50.4	.....	50.0	48.5	48.2	46.1	45.7
	Mean lowest	35.5	36.8	36.4	34.1	.....	36.4	31.5	31.6	31.7	29.8
	Monthly mean	41.7	43.8	44.2	42.7	45.3	43.4	39.3	40.2	39.2	35.8
Novemb'r.	Highest	64.2	70.3	69.1	65.9	70.0	62.0	63.7	63.0	65.1	65.2
	Lowest	7.6	11.3	15.5	11.5	18.0	14.1	0.5	3.8	—0.7	—10.6
	Mean highest	41.5	44.6	45.8	45.2	......	43.9	41.0	41.3	38.2	37.3
	Mean lowest	28.9	31.8	31.2	29.8	.....	31.3	26.6	26.0	24.9	20.4
	Monthly mean	34.9	38.2	39.1	38.1	40.9	37.4	33.4	33.5	32.0	27.9
Decemb'r.	Highest	45.1	47.0	50.1	48.9	51.0	46.7	44.9	47.0	44.0	45.8
	Lowest	6.2	1.0	3.4	—2.5	6.0	0.0	—10.2	—13.8	—11.4	—19.6
	Mean highest	35.0	33.4	35.8	34.9	......	35.7	31.8	33.5	30.6	28.6
	Mean lowest	24.0	23.2	23.0	20.8	....	23.1	17.7	16.7	15.6	10.7
	Monthly mean	29.3	28.3	30.2	29.0	32.9	29.7	24.9	25.1	23.2	19.4
Annual mean		40.6	42.7	43.9	42.8	44.9	42.7	39.8	39.7	40.3	36.2

THE WEATHER.

TABLE No. II.—Showing for each month the annual average of the highest, lowest, mean highest, mean lowest and mean temperature at the principal stations in Ontario derived from the seven years 1882-8; also the average annual mean at each station for the same period.

	Temperature.	Saugeen.	Birnam.	London.	Woodstock.	Stony Creek.	Toronto.	Lindsay.	Gravenhurst.	Ottawa.	Rockliffe.
		°	°	°	°	°	°	°	°	°	°
January.	Highest	44.1	46.2	46.3	46.0	50.7	43.6	41.5	42.3	38.7	38.0
	Lowest	—14.8	—15.6	—14.4	—20.1	—11.1	—13.8	—30.5	—33.4	—26.9	—40.7
	Mean highest	24.7	22.8	24.0	25.0	.....	25.4	20.7	20.5	15.9	15.3
	Mean lowest	8.3	9.4	8.8	6.1	.....	9.9	2.3	—1.4	—3.5	—10.9
	Monthly mean	17.4	16.1	17.0	17.0	19.1	18.2	11.7	11.4	6.8	4.0
February.	Highest	45.6	48.7	46.6	47.0	46.6	42.1	43.1	43.0	38.3	42.2
	Lowest	—11.8	—18.7	—13.8	—13.9	—9.0	—10.0	—19.7	—23.9	—22.3	—34.2
	Mean highest	26.7	26.4	27.8	28.8	......	28.5	25.7	25.0	20.2	21.0
	Mean lowest	10.5	11.1	10.3	9.2	......	12.5	4.8	3.7	0.7	—5.1
	Monthly mean	19.0	18.4	20.0	20.3	21.3	21.0	15.7	15.3	11.2	9.2
March.	Highest	48.4	54.6	52.6	52.2	52.6	48.9	46.5	45.5	41.7	45.7
	Lowest	—7.9	—12.9	—10.2	—9.7	—0.6	—1.5	—15.9	—17.8	—16.4	—27.9
	Mean highest	31.1	32.4	32.8	33.3	......	32.7	30.3	30.1	27.7	29.0
	Mean lowest	14.1	15.5	15.1	14.2	......	17.7	10.5	8.9	8.7	1.6
	Monthly mean	22.5	23.0	24.0	24.7	27.0	25.3	21.0	20.1	18.6	16.7
April.	Highest	74.1	79.5	77.6	77.3	78.0	69.3	74.6	69.7	72.6	72.3
	Lowest	10.1	14.1	16.4	14.1	23.2	19.7	10.8	6.3	8.8	0.9
	Mean highest	47.4	51.8	51.6	52.1	......	48.4	48.9	47.0	47.0	47.0
	Mean lowest	29.0	31.4	31.3	29.7	......	23.0	27.9	26.5	27.6	22.8
	Monthly mean	38.0	41.6	41.8	41.0	41.3	40.0	38.3	36.7	38.4	35.8
May.	Highest	77.6	83.3	80.4	79.7	81.9	74.9	80.6	79.4	80.0	84.7
	Lowest	27.4	27.8	30.8	29.5	39.2	32.0	27.1	26.6	30.0	23.5
	Mean highest	59.7	66.8	65.2	63.8	......	61.0	64.8	63.1	65.6	65.5
	Mean lowest	39.8	42.8	43.8	41.3	......	42.7	40.7	40.4	43.6	37.4
	Monthly mean	49.4	54.6	54.6	53.5	53.0	51.9	52.5	51.8	55.6	51.0
June.	Highest	83.7	88.1	85.5	88.0	89.7	84.4	89.0	87.7	86.7	88.3
	Lowest	36.2	35.9	40.3	37.9	47.3	41.4	36.8	36.5	41.1	34.6
	Mean highest	70.0	76.2	74.2	77.2	......	72.6	76.2	74.6	76.1	74.4
	Mean lowest	49.2	51.5	53.0	51.3	......	52.2	49.7	50.8	53.1	47.4
	Monthly mean	59.6	63.8	64.2	64.3	64.4	62.7	63.0	62.5	65.9	61.0
July.	Highest	86.0	91.3	88.9	88.9	94.0	88.8	91.5	87.7	89.5	90.6
	Lowest	39.9	41.6	46.2	44.9	53.4	48.5	43.2	43.1	47.5	40.3
	Mean highest	72.3	80.4	78.1	79.4	......	77.0	79.9	77.7	78.4	77.3
	Mean lowest	53.2	55.2	56.8	54.5	......	57.1	53.0	54.8	56.9	51.8
	Monthly mean	63.3	67.8	68.3	68.1	69.8	67.3	66.3	66.0	68.9	64.5
August.	Highest	86.2	89.9	87.1	89.0	91.6	86.3	90.9	88.3	88.0	89.0
	Lowest	39.7	38.2	39.9	41.8	49.7	45.6	37.7	39.8	42.1	37.3
	Mean highest	72.5	76.6	74.9	76.8	.....	74.6	76.7	74.9	75.3	74.4
	Mean lowest	53.0	52.6	53.7	52.5	.....	56.1	51.7	53.0	53.4	50.0
	Monthly mean	62.6	64.6	64.5	64.6	67.6	65.4	63.6	63.3	65.5	61.6
Septem'r.	Highest	82.9	86.6	83.7	86.0	88.7	81.7	85.8	83.1	81.7	83.1
	Lowest	31.7	31.6	32.8	30.6	38.5	36.7	29.2	31.3	30.3	28.9
	Mean highest	67.0	70.4	68.3	70.0	......	67.3	68.9	67.4	66.7	66.2
	Mean lowest	46.6	48.1	48.2	45.5	......	48.8	43.7	45.4	45.2	41.6
	Monthly mean	56.3	59.4	58.0	58.1	60.5	58.2	55.7	55.7	56.6	53.2
October.	Highest	73.6	78.1	74.7	75.7	75.0	70.9	76.5	71.4	70.1	71.6
	Lowest	21.9	21.4	22.9	21.8	25.3	25.3	18.1	20.5	21.6	17.0
	Mean highest	55.1	56.8	55.5	56.2	......	54.4	54.5	54.0	51.6	51.7
	Mean lowest	37.7	38.9	37.4	36.1	......	38.6	34.7	36.3	34.1	32.0
	Monthly mean	46.1	47.8	46.3	46.6	48.3	46.9	43.7	44.4	44.0	41.5
Novemb'r.	Highest	63.5	65.2	62.8	63.1	65.7	60.3	61.8	61.7	58.5	58.3
	Lowest	11.1	13.6	14.1	9.3	18.4	12.4	2.7	5.7	3.4	—4.9
	Mean highest	42.1	42.9	43.6	42.7	......	42.5	40.0	40.5	37.7	36.4
	Mean lowest	28.9	30.0	28.9	26.8	......	29.7	24.9	24.0	24.4	21.1
	Monthly mean	35.5	36.4	36.5	35.4	38.2	36.4	32.0	32.8	31.7	29.1
Decemb'r.	Highest	48.2	48.4	50.4	47.6	52.9	45.8	43.6	44.9	41.9	42.9
	Lowest	—3.1	—5.0	—5.6	—8.6	2.6	—2.6	—16.4	—13.5	—17.6	—27.0
	Mean highest	31.5	31.2	32.2	31.0	......	32.3	27.8	28.6	24.1	24.4
	Mean lowest	19.5	19.3	18.5	16.3	......	19.7	12.0	12.9	8.1	3.9
	Monthly mean	26.0	25.4	26.0	24.9	28.5	26.6	20.6	20.8	16.9	14.6
	Annual mean	41.3	43.2	43.5	43.2	44.9	43.3	40.3	40.1	40.0	36.9

THE WEATHER.

TABLE No. III.—Monthly summary of bright sunshine at the principal stations in Ontario in 1888, showing the number of hours the sun was above the horizon, the hours of registered sunshine and the total for the year.

Months.	Hours of sun above horizon.	Woodstock.	Stratford.	Niagara Falls, South.	Toronto.	Barrie.	Lindsay.	Kingston.	Pembroke.
	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.
January	285.7	80.5	....	73.1	107.2	67.4	109.4	94.7	139.6
February	302.5	95.4	....	81.4	96.5	65.8	100.9	124.9	133.0
March	369.9	120.4	135.7	93.5	133.8	107.7	146.5	141.3	152.7
April	406.4	194.5	158.8	198.7	229.1	216.4	217.2	206.2	204.4
May	461.1	183.0	202.4	208.8	189.7	158.1	195.9	212.5	270.4
June	465.7	256.6	270.1	271.0	289.1	270.1	306.5	286.2	....
July	470.9	269.5	....	291.4	282.4	252.5	279.7	315.7	....
August	434.5	245.8	....	255.3	258.5	243.0	227.7	245.3	....
September	376.3	219.8	....	199.7	227.7	189.1	206.2	213.6	....
October	340.2	100.5	....	63.4	101.6	81.6	97.7	114.0	....
November	286.9	86.8	....	119.3	70.8	47.5	64.9	71.9	....
December	274.3	58.8	....	....	61.9	27.8	53.0	66.0	....
Totals	4474.4	1911.6	....	....	2048.3	1727.0	2005.6	2092.3	....

TABLE No. IV.—Monthly average of bright sunshine at the principal stations in Ontario for the seven years 1882-8, showing the number of hours the sun was above the horizon and the hours of registered sunshine.

Months.	Hours of sun above horizon.	Woodstock.	Stratford.	Niagara Falls, South.	Toronto.	Barrie.	Lindsay.	Kingston.	Pembroke.
	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.
January	285.7	61.5	69.9	49.0	79.0	52.2	80.0	72.4	88.8
February	294.5	82.7	70.1	66.6	96.6	63.5	96.4	98.2	101.4
March	369.9	138.5	115.7	112.1	151.5	126.9	160.3	151.7	168.6
April	406.4	193.0	163.7	161.4	192.7	164.9	201.8	188.5	179.5
May	461.1	206.2	200.9	209.9	228.3	203.1	229.4	222.3	220.0
June	465.7	247.4	243.0	251.7	274.6	243 4	272.3	251.1	218.9
July	470.9	264.2	276.2	262.6	285.4	255.3	279.4	264.8	224.8
August	434.5	227.7	240.4	247.5	257.7	213.9	237.7	254.6	227.8
September	376.3	199.7	170.0	188.4	214.1	159.6	205.4	203.9	165.3
October	340.2	132.0	125.0	113.9	142.6	86.9	132.8	124.3	103.1
November	286.9	69.2	68.3	78.9	79.0	50.2	73.5	74.2	63.7
December	274.3	46.9	43.7	48.2	42.0	28.0	51.3	60.4	58.0
Totals	4466.4	1869.0	1786.9	1790.2	2043.5	1647.9	2020.3	1966.4	1819.9

THE WEATHER.

TABLE No. V.—Monthly summary of the average fall of rain and snow in the several districts of Ontario in 1888.

Months.	West and south-west.		North-west and north.		Centre.		East and north-east.	
	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.
	in.	in.	in.	in.	in.	in.	in.	in.
January	0.86	15.5	0.27	21.5	0.95	15.6	0.22	15.2
February	1.11	5.1	0.53	14.3	0.83	5.9	0.59	11.7
March	2.07	10.6	1.36	20.4	1.92	8.5	1.38	14.2
April	1.61	1.4	1.13	5.0	1.30	0.7	1.21	6.8
May	1.75	S.	2.21	S.	1.29	S.	1.40	S.
June	3.31	....	1.45	....	3.05	....	1.84	....
July	2.44	....	1.05	....	1.39	....	1.08	....
August	2.51	....	3.39	....	2.74	....	3.87	....
September	2.27	....	2.57	....	2.68	....	3.15	....
October	2.74	S.	3.09	S.	2.57	S.	2.62	S.
November	2.79	1.7	2.87	8.3	2.70	2.0	3.25	3.5
December	1.24	5.4	1.14	8.5	0.95	3.2	1.00	5.6
Totals	24.70	39.7	21.06	78.0	22.37	35.9	21.61	57.0

TABLE No. VI.— Monthly summary of the annual average fall of rain and snow in the several districts of Ontario for the seven years 1882-8.

Months.	West and south-west.		North-west and north.		Centre.		East and north-east.	
	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.
	in.	in.	in.	in.	in.	in.	in.	in.
January	1.03	18.6	1.02	30.8	1.10	19.5	0.83	23.7
February	1.85	10.8	0.79	21.5	1.40	11.4	0.80	18.1
March	1.42	11.3	1.01	15.1	1.28	10.1	0.98	15.7
April	1.60	4.1	1.34	4.2	1.49	3.8	1.35	6.2
May	3.03	0.1	2.45	0.4	2.52	0.2	2.36	0.4
June	3.26	....	2.74	....	2.96	....	2.69	....
July	2.72	....	2.34	....	2.32	....	2.77	....
August	2.95	....	2.62	....	2.43	....	2.64	....
September	2.48	....	3.04	....	2.59	....	2.70	....
October	2.65	0.3	3.03	1.2	2.15	0.1	2.17	0.5
November	2.29	6.3	2.13	15.0	2.11	5.3	1.93	9.3
December	1.25	16.3	1.09	23.1	1.17	13.1	0.97	15.6
Totals	26.53	67.8	23.60	111.3	23.52	63.5	22.19	89.5

THE WEATHER.

TABLE No. VII.—Summary of the total fall of Rain and Snow, and of the number of days on which Rain and Snow fell in Ontario during the years 1887 and 1888 at Stations reporting for the whole year, and the averages for the province.

Stations.	Observers.	Rain.				Snow.			
		1888.		1887.		1888.		1887.	
		Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.
Essex—									
Cottam	W. E. Wagstaff	30.24	100	30.30	89	25.5	30	41.1	41
Maidstone	T. F. Kane	25.49	103	24.45	83	....	......	....	......
Wheatley	D. H. Bedford	29.53	78	31.05	77	35.0	17	42.3	17
Kent—									
Blenheim	W. R. Fellows	31.12	84	29.94	72	24.0	14	44.5	17
Chatham	W. D. A. Ross	26.03	58	29.96	61	31.4	29	26.6	42
Dealtown	S. J. Pardo	28.79	109	28.49	94	18.3	20	30.1	33
Ridgetown	Thos. Scane	25.59	124	26.40	95	36.0	36	57.5	41
Elgin—									
Cowal	S. Maccoll	23.67	85	24.67	67	20.0	17	58.1	33
Lyons	W. McCredie	25.90	82	22.42	76	16.7	14	56.1	35
Port Stanley	M. Payne	27.18	143	24.37	125	36.2	68	53.6	75
Norfolk—									
Port Dover	H. Morgan	31.03	132	21.10	110	16.0	45	45.2	60
Welland—									
Niagara Falls, So.	E. Morden	28.22	102	23.60	92	25.3	31	46.8	39
Lambton—									
Birnam	J. S. Mellor	23.63	97	25.05	88	81.8	46	79.9	67
Oil Springs	A. Smyth	24.95	75	22.93	72	36.5	29	43.1	34
Sarnia	Wm. Mowbray	21.94	62	21.55	67	36.0	14	11.4	20
Thedford	Martin Wattson	26.68	112	24.62	92	54.0	34	62.0	43
Watford	D. Ross	24.23	71	23.12	67	....	......	....	......
Huron—									
Goderich, L. H.	R. Campbell	26.88	79	19.92	70	85.0	47	79.5	39
Sunshine	G. Hood	24.41	82	24.35	63	75.2	56	141.9	58
Zurich	G. Hess	25.87	89	29.38	83	70.4	49	81.3	40
Bruce—									
Lucknow	M. Macdonald	25.99	103	30.84	86	100.7	69	106.8	76
Point Clark	J. Ray	22.98	41	22.39	43	65.0	16	99.0	30
Saugeen	Mrs. J. R. Stewart.	21.32	113	21.38	91	102.2	84	144.0	91
Grey—									
Bognor	C. H. Heming	21.82	86	20.73	59	73.5	31	113.0	52
Durham	J. Gunn	25.35	96	27.64	89	94.2	63	142.0	75
Owen Sound	John McLean	23.53	62	22.22	53	71.0	35	119.0	41
Presque Isle	J. McKenzie	23.83	80	22.25	71	88.2	48	113.0	50
Simcoe—									
Coldwater	J. V. Lazonby	21.08	77	21.57	59	86.3	50	144.1	53
Orillia	H. A. Fitton	14.70	98	12.87	84	75.3	66	151.6	84
Middlesex—									
London	E. B. Reed	25.90	81	23.15	68	51.7	36	89.7	45
Wilton Grove	H. Anderson	28.80	82	20.23	61	21.0	17	54.5	27
Oxford—									
Princeton	D. Beamer	23.51	87	22.12	94	30.3	28	57.1	38
Woodstock	Prof. Wolverton	20.63	95	22.19	89	58.4	44	75.0	53
Brant—									
Brantford	T. H. McIntyre	21.50	70	16.96	59	14.7	17	41.0	21
Paris	John Kay	25.60	97	23.00	87	28.1	29	54.3	36
St. George	E. E. Kitchen	20.70	109	22.66	88	31.0	43	74.5	61
Perth—									
Listowel	A. Kay	23.36	86	21.87	80	67.5	86	131.8	61
Wellington—									
Elora	T. Connor	21.28	63	24.99	71	40.1	30	71.1	44
Fergus	A. D. Ferrier	20.49	107	25.29	104	81.9	63	135.8	71
Guelph, O. A. C.	C. A. Zavitz	19.31	93	14.98	79	37.5	42	65.4	54

TABLE No. VII.—THE WEATHER.—*Continued.*

Stations.	Observers.	Rain.				Snow.			
		1888.		1887.		1888.		1887.	
		Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.
WATERLOO—									
Conestogo	G. A. McIntyre ...	21.57	99	21.77	93	40.7	60	74.6	73
DUFFERIN—									
Orangeville.......	N. Gordon	21.85	62	22.93	72	78.1	36	104.9	49
WENTWORTH—									
Stony Creek......	C. F. Van Wagner.	30.25	92	27.26	93	31.0	27	62.0	36
HALTON—									
Georgetown	Jos. Barber, jr	20.50	127	23.28	123	37.5	71	89.1	57
YORK—									
Aurora...........	Rev. W. Amos	18.91	74	16.07	71	39.1	42	64.5	52
Scarborough......	R. Martin.........	23.95	108	19.27	100	24.1	55	79.4	59
Toronto	Observatory	22.82	133	17.97	106	34.6	83	77.9	78
ONTARIO -									
Oshawa	Rev. J. Middleton.	24.05	73	19.24	70	44.2	31	78.1	28
LEN'X & ADDINGTON									
Denbigh	J. Lane	19.09	61	16.96	45	75.0	34	91.5	31
FRONTENAC—									
Harrowsmith.....	J. Donnelly	22.28	79	18.62	70	41.0	24	83.5	39
Kingston	A. P. Knight......	25.90	114	23.00	108	68.1	65	96.6	73
LEEDS & GRENVILLE									
Merrickville......	J. Burchill	21.70	80	....	......	66.0	29	....	......
CARLETON—									
Ottawa...........	W. J. Chisholm ...	24.34	91	19.53	69	73.3	31	175.0	46
RENFREW—									
Clontarf..........	A. Schultz	20.33	97	16.11	62	95.4	68	111.3	65
Renfrew	W. E. Smallfield ..	13.19	62	15.12	68	43.5	19	75.5	37
Rockliffe	W. H. McIntyre ..	16.72	77	10.79	56	79.9	54	113.1	72
LANARK—									
Oliver's Ferry....	W. J. McLean	20.27	58	15.70	44	40.3	18	69.9	37
VICTORIA—									
Bobcaygeon	J. Stewart	23.04	80	19.66	77	54.3	48	98.9	51
Lindsay..........	Thos Beall	19.90	98	16.93	103	72.0	66	138.4	68
PETERBOROUGH—									
Ennismore	Thos. Tellford.....	22.42	87	22.13	84	47.0	55	85.4	65
Norwood	Rev. J. Carmichael	19.31	64	21.02	53	62.0	28	102.5	37
HALIBURTON—									
Haliburton	C. R. Stewart	23.70	97	16.32	83	67.7	63	87.9	64
HASTINGS—									
Deseronto	J. Russell	19.93	53	13.21	78	38.6	22	66.6	35
Shannonville	John Kemp........	21.62	45	17.85	54	52.5	16	78.0	29
MUSKOKA—									
Bala	E. B. Sutton	25.16	90	20.72	91	68.5	36	126.2	88
Beatrice..........	J. Hollingworth...	27.86	79	22.62	72	162.4	74	141.0	65
Charlinch	C. J. Tisdale	29.11	102	23.20	92	121.9	81	157.8	89
Gravenhurst......	T. M. Robinson...	18.64	90	19.83	84	95.8	52	115.6	65
PARRY SOUND—									
Axe Lake	H. Brown.........	15.63	36	16.00	44	81.7	39	144.7	56
Lynch Lake......	G. Ambury........	20.32	99	19.58	77	119.6	96	144.2	77
Parry Sound	Rev. R. Mosley....	24.16	108	22.24	100	84.6	80	117.9	89
Sprucedale	A. McKenzie......	22.84	62	21.40	55	79.6	29	137.3	37
ALGOMA—									
Little Current ..	R. S. Potts........	31.77	50	20.60	51	108 1	35	106.5	35
Port Arthur......	W. P. Cooke	20.12	87	20.13	65	62.4	42	49.0	50
Savanne..........	Agent C. P. R	15.89	60	16.10	45	96.1	43	67.0	39
Average for	the Province	21.56	73	21.65	77	59.3	43	88.8	51

THE WEATHER.

TABLE No. VIII.—Comparative Meteorological Register for the seven years 1882-8, as recorded at Toronto Observatory in Latitude 43° 39.4′ North and Longitude 5h. 17m. 34.65s. West.

Register.	1888.	1887.	1886.	1885.	1884.	1883.	1882.
	°	°	°	°	°	°	°
Mean Temperature	42.70	44.14	43.71	41.57	43.79	41.95	45.42
Difference from average [48 years]	— 1.38	+ 0.06	— 0.37	— 2 51	— 0.29	— 2.13	+ 1.34
Thermic anomaly [Lat. 43° 40′]	— 8.32	— 6.88	— 7.31	— 9.45	— 7.23	— 9.07	— 5.60
Highest temperature	92.0	97.2	89.5	88.6	89.6	83.4	89.9
Lowest temperature	— 16.1	— 16.6	— 22.8	— 16.1	— 13.3	— 10.5	— 17.4
Annual range	108.1	113.8	112.3	104.7	102.9	93.9	107.3
Mean daily range	16.55	17.12	16.53	16.85	17.05	17.07	15.70
Greatest daily range	37.7	34.0	32.6	39.2	34.8	38.4	36.0
Mean height of Bar. at 32° Fah.	29.6448	29.6329	29.6255	29.5933	29.6273	29.6496	29.6515
Difference from average [47 years]	+ .0270	+ .0151	+ .0077	— .0245	+ .0095	+ .0318	+ .0337
Highest barometer	30.432	30.607	30.283	30.300	30.412	30.365	30.447
Lowest barometer	28.793	28.704	28.752	28.714	28.807	28.803	28.781
Annual range	1.639	1.903	1.531	1.586	1.605	1.562	1.666
Mean Humidity of the air	74	75	77	77	76	77	74
Mean elasticity of aqueous vapour	0.243	0.261	0.260	0.249	0.261	0.249	0.265
Mean of cloudiness	0.63	0.63	0.61	0.61	0.63	0.64	0.63
Difference from average [34 years]	+ .01	+ .01	— .01	— .01	+ .01	+ .02	+ .01
	°	°	°	°	°	°	°
Resultant direction of the wind	N 59 W	N 46 W	N 56 W	N 62 W	N 55 W	N 77 W	N 47 W
" velocity of the wind	2.67	1.92	2.13	2.60	3.30	2.39	2.11
Average velocity [miles per hour]	9.71	9.88	9.73	9.95	10.29	10.08	10.42
Difference from average [13 years]	+ 0.03	+ 0.20	+ 0.05	+ 0.27	+ 0.61	+ 0.40	+ 0.74
Total amount of rain, in inches	22.819	17.969	27.726	26.351	20.532	25.734	20.587
Difference from average [48 years]	— 4.560	— 9.410	+ .347	— 1.028	— 6.847	— 1.645	— 6.792
Number of days of rain	133	106	112	103	123	124	110
Total amount of snow, in inches	34.6	77.9	73.5	65.6	80.2	84.0	42.5
Difference from average [45 years]	— 35.7	+ 7.6	+ 3.2	— 4.7	+ 9.9	+ 13.7	— 27.8
Number of days of snow	83	78	66	73	69	74	62
Number of fair days	175	203	196	203	184	181	209
Number of Auroras observed	21	25	29	31	20	46	60
Possible to see Aurora [No. of nights]	183	180	189	195	202	207	204
Number of Thunderstorms	23	22	26	19	30	32	28
Number of hours of possible sunshine	4474.4	4463.3	4463.3	4463.3	4474.4	4463.3	4463.3
Number of hours bright sunshine	2048.3	2063.5	2034.4	2018.3	1931.8	2038.8	2169.5
Difference from average [7 years]	+ 4.8	+ 20.0	— 9.1	— 25.2	— 111.7	— 4.7	+ 126.0

RURAL AREA.

TABLE No. IX.—Showing by County Municipalities and groups of Counties the Rural Area of Ontario as returned by Municipal Assessors for 1888.

Counties.	Acres of Assessed Land.			Acres cleared.		Acres woodland.	Acres swamp, marsh or waste.	Per cent. cleared.
	Resident.	Non-resident.	Total occupied.	1888.	1887.			
Essex	410,695	20,824	431,519	194,695	186,095	212,391	24,433	45.1
Kent	530,434	31,642	562,076	283,404	282,585	254,806	23,866	50.4
Elgin	435,749	4,772	440,521	269,686	260,003	155,001	15,834	61.2
Norfolk	385,971	9,065	395,036	226,997	227,598	136,282	31,757	57.5
Haldimand	277,521	3,883	281,404	198,635	197,872	72,755	10,014	70.6
Welland	222,389	5,444	227,833	161,043	159,212	56,407	10,383	70.7
Totals	2,262,759	75,630	2,338,389	1,334,460	1,313,365	887,642	116,287	57.1
Lambton	620,626	39,097	659,723	282,322	253,525	361,454	15,947	42.8
Huron	789,764	9,558	799,322	537,325	525,936	173,529	88,468	67.2
Bruce	787,839	23,790	811,629	438,668	428,400	287,693	85,268	54.0
Totals	2,198,229	72,445	2,270,674	1,258,315	1,207,861	822,676	189,683	55.4
Grey	1,022,266	34,339	1,056,605	543.648	536,497	354,580	158,377	51.5
Simcoe	894.804	59,389	954,193	464,862	453,852	450,870	38,461	48.7
Totals	1,917,070	93,728	2,010,798	1,008,510	990,349	805,450	196,838	50.2
Middlesex	748,145	9,851	757,996	522,646	514,563	223,145	12,205	69.0
Oxford	469,824	1,455	471,279	338,861	334,058	103,417	29,001	71.9
Brant	213,688	2,314	216,002	168,940	168,427	28.248	18,814	78.2
Perth	509,067	9,265	518,332	356,591	354,175	104,315	57,426	68.8
Wellington	621,624	5,539	627,163	434,573	432,175	89,760	102,830	69.3
Waterloo	302,794	2,796	305,590	231,119	233,112	59,353	15,118	75.6
Dufferin	340,275	15,884	356,159	181.925	179,139	86,623	87,611	51.1
Totals	3,205,417	47,104	3,252,521	2,234,655	2,215,649	694,861	323,005	68.7
Lincoln	185,763	5,133	190,896	148,874	148,506	38,137	3,885	78.0
Wentworth	270,003	3,250	273,253	206,038	205,991	44,878	22,337	75.4
Halton	222,420	1,107	223,527	164.762	166,260	45,635	13,130	73.7
Peel	288,106	5	288,111	240,142	233,806	36,064	11,905	83.4
York	532,175	7,297	539,472	408,864	413,820	81,592	49,016	75.8
Ontario	482,497	19,129	501,626	334,976	331,468	105,014	61,636	66.8
Durham	365,960	2,857	368,817	283,670	271,412	61,201	23,946	76.9
Northumberland	427,991	4,744	432,735	310,854	312,132	95,747	26,134	71.8
Prince Edward	231,759	1,131	232,890	182,902	182,919	42,875	7,113	78.5
Totals	3,006,674	44,653	3,051,327	2,281,082	2,266,314	551,143	219,102	74.8
Lennox & Addington	388,378	18,530	406,908	201,029	199,012	122,762	83,117	49.4
Frontenac	569,443	94,013	663,456	211,457	202,879	321,789	130,210	31.9
Leeds and Grenville	736,947	6,568	743,515	412,241	408,186	216,928	114,346	55.4
Dundas	234,800	2,750	237,550	132,911	137,770	56,212	48,427	56.0
Stormont	243,931	6,123	250,054	116,058	114,606	125,346	8,650	46.4
Glengarry	286,078	150	286,228	141,945	140,144	119,645	24,638	49.6
Prescott	257,045	26,821	283,866	129,672	128,640	123,392	30,802	45.7
Russell	231,201	22,704	253,905	75,432	76,682	174,899	3,574	29.7
Carleton	552,470	16,837	569,307	275,744	271,747	173,710	119,853	48.4
Renfrew	844,817	40,315	885,132	259,775	244,926	547,364	77,993	29.3
Lanark	621,478	40,393	661,871	289,648	284,333	251,876	120,347	43.8
Totals	4,966,588	275,204	5,241,792	2,245,912	2,208,925	2,233,923	761,957	42.8
Victoria	542,999	25,917	568,916	239,067	234,089	204,122	125,727	42.0
Peterborough	508,554	32,804	541,358	215,080	214,183	266,658	59,620	39.7
Haliburton	200,327	361,357	561,684	28,013	28,006	499,832	33,839	5.0
Hastings	892,055	69,207	961,262	344,466	320,390	525,059	91,737	35.8
Totals	2,143,935	489,285	2,633,220	826,626	796,668	1,495,671	310,923	31.4
Muskoka	447,783	60,719	508,502	52,072	50,967	387,312	69,118	10.2
Parry Sound	286,320	19,591	305,911	29,642	24,354	258,434	17,835	9.7
Algoma	269,835	46,372	316,207	36,184	38,185	254,067	25,956	11.4
*Nipissing	118,816	10,122	128,938	7,267	6,880	121,561	110	5.6
Totals	1,122,754	136,804	1,259,558	125,165	120,386	1,021,374	113,019	9.9
The Province.. 1888	20,823,426	1,234,853	22,058,279	11,314,725	....	8,512,740	2,230,814	51.3
The Province.. 1887	21,026,636	951,907	21,978,543	....	11,119,517	8,705,613	2,153,413	50.6

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* No agricultural statistics have been received from Nipissing, and the acreage has been omitted in computing averages.

FALL WHEAT.

TABLE No. X.—Showing by County Municipalities and groups of Counties the area and produce of Fall Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	30,029	669,647	22.3	30,284	588,115	19.4	32,127	656,482	20.4
Kent	56,276	1,188,830	20.4	60,013	971,010	16.2	61,052	1,232,988	20.2
Elgin	43,391	763,682	17.6	43,615	654,225	15.0	44,744	875,340	19.6
Norfolk	33,286	515,933	15.5	31,925	461,954	14.5	33,206	597,861	18.0
Haldimand	32,682	359,502	11.0	33,085	520,758	15.7	33,100	547,105	16.5
Welland	22,172	268,281	12.1	22,826	349,923	15.3	22,964	371,246	16.2
Totals	219,836	3,765,875	17.1	221,748	3,545,985	16.0	227,193	4,281,022	18.8
Lambton	38,829	698,922	18.0	35,499	628,332	17.7	34,785	672,546	19.3
Huron	55,849	921,509	16.5	69,197	948,690	13.7	69,573	1,394,574	20.0
Bruce	39,302	660,274	16.8	45,402	656,513	14.5	50,110	986,168	19.7
Totals	133,980	2,280,705	17.0	150,098	2,233,535	14.9	154,468	3,053,288	19.8
Grey	23,578	440,909	18.7	22,026	363,209	16.5	27,887	566,817	20.3
Simcoe	49,502	990,040	20.0	51,019	881,608	17.3	54,094	1,156,269	21.4
Totals	73,080	1,430,949	19.6	73,045	1,244,817	17.0	81,981	1,723,086	21.0
Middlesex	69,013	1,131,813	16.4	71,820	1,151,993	16.0	74,861	1,489,078	19.9
Oxford	38,933	689,114	17.7	40,590	742,797	18.3	39,628	791,382	20.0
Brant	25,550	319,375	12.5	29,188	435,777	14.9	30,896	569,871	18.4
Perth	39,920	626,744	15.7	48,309	634,780	13.1	46.383	938,788	20.2
Wellington	19,382	329,494	17.0	26,077	431,835	16.6	27,922	566,314	20.3
Waterloo	36,115	617,567	17.1	40,647	666,611	16.4	40,348	843,311	20.9
Dufferin	7,426	115,103	15.5	9,423	132,487	14.1	11,422	222,773	19.5
Totals	236,339	3,829,210	16.2	266,054	4,196,280	15.6	271,460	5,421,517	20.0
Lincoln	19,113	160,549	8.4	21,521	347,134	16.1	22,058	398,724	18.1
Wentworth	27,409	246,681	9.0	31,256	517,912	16.6	31,836	596,794	18.7
Halton	17,188	183,912	10.7	21,154	440,638	20.8	22,296	429,012	19.2
Peel	19,938	299,070	15.0	24,349	396,645	16,3	27,070	585,756	21.6
York	26,513	524,957	19.8	34,116	595,665	17.5	38,123	841,141	22.1
Ontario	4.682	107,218	22.9	6,799	127,413	18.7	10,208	228,617.	22.4
Durham	3,152	69,659	22.1	3,216	58,692	18.3	3,312	70,381	21.3
Northumberland	11,920	267,008	22.4	9,849	169,893	17.3	10,119	223,380	22.1
Prince Edward	1,148	21,238	18.5	957	17,082	17.9	2,124	34.530	16.3
Totals	131,063	1,880,292	14.3	153,217	2,671,074	17.4	167,146	3,408,335	20.4
Lennox and Addington	1,615	21,803	13.5	1,285	13,942	10.9	2,000	34.289	17.1
Frontenac	746	12,757	17.1	954	12,936	13.6	1,893	35,698	18.9
Leeds and Grenville	2,997	59,341	19.8	2,885	40,274	14.0	5,345	99,156	18.6
Dundas	157	3,737	23.8	149	2,384	16.0	1,227	21,998	17.9
Stormont	150	4,170	27.8	428	6,848	16.0	748	13,679	18.3
Glengarry	129	3,548	27.5	279	3,906	14.0	673	11,048	16.4
Prescott	55	825	15.0	26	390	15.0	85	1,056	12.4
Russell	165	3,465	21.0	72	972	13.5	227	4,058	17.9
Carleton	344	6,605	19.2	821	14,450	17.6	1,665	24,348	14.6
Renfrew	153	2,678	17.5	254	4,542	17.9	1,062	18,567	17.5
Lanark	1,525	32,483	21.3	1,935	30,825	15.9	3,134	60,871	19.4
Totals	8,036	151,412	18.8	9,088	131,469	14.5	18,059	324,768	18.0
Victoria	6,084	139,932	23.0	7,668	134,343	17.5	9,020	183,806	20.4
Peterborough	9,763	192,331	19.7	8,355	152,646	18.3	9,976	213,303	21.4
Haliburton	177	3,434	19.4	118	2,242	19.0	101	1,689	16.7
Hastings	7,280	143,416	19.7	7.834	115,630	14.8	8,151	158,113	19.4
Totals	23,304	479,113	20.6	23,975	404,861	16.9	27,248	556,911	20.4
Muskoka	110	1,837	16.7	60	1,140	19.0	64	1,111	17.4
Parry Sound	....	....	....	27	459	17.0	35	646	18.5
Algoma	789	11,394	14.4	431	10,991	25.5	387	7,975	20.6
Totals	899	13,231	14.7	518	12,590	24.3	486	9,732	20.0
The Province	826,537	13,830,787	16.7	897,743	14,440,611	16.1	948,041	18,778,659	19.8

SPRING WHEAT.

TABLE No. XI.—Showing by County Municipalities and groups of Counties the area and produce of Spring Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	638	11,484	18.0	1,376	17,723	12.9	1,636	25,365	15.5
Kent	2,062	37,735	18.3	3,531	42,372	12.0	2,760	44,382	16.1
Elgin	492	8,512	17.3	1,084	10,840	10.0	1,902	29,072	15.3
Norfolk	404	5,893	14.6	781	6,942	8.9	886	12,742	14.4
Haldimand	1,941	34,744	17.9	3.015	27,286	9.1	2,901	41,366	14.3
Welland	285	4,190	14.7	1,054	9,275	8.8	1,676	23,609	14.1
Totals	5,822	102,558	17.6	10,841	114,438	10.6	11,761	176,536	15.0
Lambton	1,711	27,034	15.8	5,633	39,713	7.1	6,853	99,663	14.5
Huron	2,041	28,778	14.1	9,511	71,618	7.5	19,549	259,961	13.3
Bruce	7,458	117,836	15.8	12,869	120,840	9.4	14,191	196,922	13.9
Totals	11,210	173,648	15.5	28,013	232,171	8.3	40,593	556,546	13.7
Grey	21,911	354,958	16.2	31,905	309,478	9.7	43,873	620,098	14.1
Simcoe	28,217	482,511	17.1	33,644	358,645	10.7	35,289	545,499	15.5
Totals	50,128	837,469	16.7	65,549	668,123	10.2	79,162	1,165,597	14.7
Middlesex	1,322	19,169	14.5	7,439	57,355	7.7	12,604	190,035	15.1
Oxford	1,495	23,023	15.4	6,873	58,077	8.5	10,577	170,386	16.1
Brant	47	602	12.8	586	5,526	9.4	1,330	17,858	13.4
Perth	1,875	21,938	11.7	6,876	41,256	6.0	13,935	201,161	14.4
Wellington	7,139	115,652	16.2	15,787	123,612	7.8	21,625	307,013	14.2
Waterloo	351	7,020	20.0	2,873	22,697	7.9	5,742	83,872	14.6
Dufferin	17,249	298,408	17.3	18,977	229,432	12.1	20,430	294,996	14.4
Totals	29,478	485,812	16.5	59,411	537,955	9.1	86,243	1,265,321	14.7
Lincoln	885	16,373	18.5	1,244	10,624	8.5	2,252	33.998	15.1
Wentworth	848	13,653	16.1	2,103	19,621	9.3	2,638	39,984	15.2
Halton	2,182	44,513	20.4	2,642	25,258	9.6	3,458	52,750	15.3
Peel	7,877	172,506	21.9	9,899	108,889	11.0	12,587	212,480	16.9
York	18,934	426,015	22.5	23,629	256,138	10.8	26,301	462,132	17.6
Ontario	37,871	829,375	21.9	42,499	563,112	13.3	47,088	840,564	17.9
Durham	20,873	404,936	19.4	29,107	366,166	12.6	38.238	645,473	16.9
Northumberland	17,660	243,708	13.8	22,511	246,045	10.9	28,709	413,348	14.4
Prince Edward	3,450	52,440	15.2	5,705	79,870	14.0	6,898	96,577	14.0
Totals	110,580	2,203,519	19.9	139,339	1,675,723	12.0	168,169	2,797,306	16.6
Lennox and Addington	2,626	33,875	12.9	5,616	70,705	12.6	6,361	95,815	15.1
Frontenac	7,970	127,520	16.0	7,186	88,963	12.4	8,650	137,035	15.8
Leeds and Grenville	10,230	184,140	18.0	13,890	161,402	11.6	13,505	227,267	16.8
Dundas	3,941	93,796	23.8	5,534	92,252	16.7	4,744	94,952	20.0
Stormont	4,552	100,144	22.0	5,276	89,692	17.0	4,510	86,232	19.1
Glengarry	7,627	138,811	18.2	8,531	139,908	16.4	7,932	135,819	17.1
Prescott	7,984	160,478	20.1	8,519	120.799	14.2	8,142	136,401	16.8
Russell	3,114	61,346	19.7	3,980	59,023	14.8	4,190	73,006	17.4
Carleton	17,287	376,857	21.8	19,251	328,422	17.1	21,687	382,719	17.6
Renfrew	21,629	311,458	14.4	22,067	272,769	12.4	24,310	401,608	16.5
Lanark	13,664	215,891	15.8	14,280	175,358	12.3	14,295	227,617	15.9
Totals	100,624	1,804,316	17.9	114,130	1,599,293	14.0	118,326	1,998,471	16.9
Victoria	22,581	359,038	15.9	23,646	270,274	11.4	32.516	493,132	15.2
Peterborough	20,983	249,698	11.9	23,181	261,945	11.3	25,615	353,030	13.8
Haliburton	1,163	18,608	16.0	1,334	17,676	13.3	1,295	16,632	12.8
Hastings	9,365	114,253	12.2	12,870	137,452	10.7	16,211	254,587	15.7
Totals	54,092	741,597	13.7	61,031	687,347	11.3	75,637	1,117,381	14.8
Muskoka	863	12,600	14.6	1,334	15,755	11.8	1,465	21,952	15.0
Parry Sound	551	6.502	11.8	901	13,668	15.2	1,535	25,468	16.6
Algoma	4,502	85,538	19.0	4,272	88,644	20.8	6,319	123,541	19.6
Totals	5,916	104,640	17.7	6,507	118,067	18.1	9,319	170,961	18.3
The Province	367,850	6,453,559	17.5	484,821	5,633,117	11.6	589,210	9,248,119	15.7

BARLEY.

TABLE No. XII.—Showing by County Municipalties and groups of Counties the area and produce of Barley in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	4,148	124,025	29.9	2,406	69,004	28.7	2,535	71,018	28.0
Kent	8,740	271,814	31.1	5,942	141,360	23.8	6,127	167,777	27.4
Elgin	4,545	150,894	33.2	4,206	87,653	20.8	4,407	121,983	27.7
Norfolk	6,735	200,030	29.7	6,374	123,337	19.4	6,147	163,409	26.6
Haldimand	13,334	409,354	30.7	13,176	227,550	17.3	14,599	338,336	23.2
Welland	2,917	87,510	30.0	3,638	70,468	19.4	3,936	95,076	24.2
Totals	40,419	1,243,627	30.8	35,742	719,372	20.1	37,751	957,599	25.4
Lambton	14,957	526,486	35.2	13,901	307,490	22.1	14,477	386.858	26.7
Huron	31,652	902,082	28.5	27,975	694,619	24.8	26,543	742,912	28.0
Bruce	23,249	597,499	25.7	19,056	423,805	22.2	19,094	505,037	26.4
Totals	69,858	2,026,067	29.0	60,932	1,425,914	23.4	60,114	1,634,807	27.2
Grey	21,247	471,683	22.2	23,734	514,316	21.7	23,804	589,882	24.8
Simcoe	41,893	930,025	22.2	34,316	793,729	23.1	30,139	777,316	25.8
Totals	63,140	1,401,708	22.2	58,050	1,308,045	22.5	53,943	1,367,198	25.3
Middlesex	15,970	517,428	32.4	13,884	311,905	22.5	14,906	402,429	27.0
Oxford	19,151	643,474	33.6	17,184	415,853	24.2	16,868	512,947	30.4
Brant	25,554	720,623	28.2	21,389	479,114	22.4	17,703	485,816	27.4
Perth	17,380	583,968	33.6	15,739	390,799	24.8	17,614	520,346	29.5
Wellington	44,082	1,282,786	29.1	35,489	840,734	23.7	34,956	976,871	27.9
Waterloo	21,037	685,806	32.6	15,422	391,102	25.4	15,902	485,029	30.5
Dufferin	15,140	398,182	26.3	13,140	318,645	24.3	11,630	299.025	25.7
Totals	158,314	4,832,267	30.5	132,247	3,148,152	23.8	129,579	3,682,463	28.4
Lincoln	4,860	141,912	29.2	3,545	62,888	17.7	4,238	109,545	25.8
Wentworth	15,657	541,732	34.6	13,630	295,635	21.7	12,435	359,737	28.9
Halton	16,345	495,254	30.3	13,299	331,943	25.0	12,952	363,871	28.1
Peel	46,443	1,277,183	27.5	37,705	891,346	23.6	34,115	947,864	27.8
York	72,328	2,307,263	31.9	62,396	1,548,045	24.8	56,438	1,652,025	29.3
Ontario	51,815	1,595,902	30.8	40,093	1,016,758	25.4	38,109	1,099,513	28.9
Durham	61,557	1,520,458	24.7	51,357	1,194,564	23.3	46,787	1,272,904	27.2
Northumberland	53,202	915,074	17.2	49,522	972,612	19.6	45,935	1,042,807	22.7
Prince Edward	44,894	852,986	19.0	38,668	684,037	17.7	40,928	823,786	20.1
Totals	367,101	9,647,764	26.3	310,215	6,997,828	22.6	291,937	7,672,052	26.3
Lennox and Addington	37,056	618,835	16.7	36,602	741,557	20.3	40,791	895,513	22.0
Frontenac	19,541	363,463	18.6	13,394	238,011	17.8	18,368	430,450	23.4
Leeds and Grenville	10,806	280,956	26.0	9,680	221,381	22.9	11,074	282,833	25.5
Dundas	5,628	192,478	34.2	4,729	118,225	25.0	6,913	213,036	30.8
Stormont	1,989	55,692	28.0	1,838	48,394	26.3	2,340	66,270	28.3
Glengarry	2,641	62,592	23.7	2,256	46,022	20.4	2,160	50,165	23.2
Prescott	4,158	139,709	33.6	3,331	86,273	25.9	2,565	70,998	27.7
Russell	1,754	35,080	20.0	1,802	42,041	23.3	1,399	33,579	24.0
Carleton	9,475	297,515	31.4	8,130	237,802	29.3	7,654	225,434	29.5
Renfrew	2,047	34,390	16.8	1,921	34,059	17.7	1,357	31,743	23.4
Lanark	3,863	90,781	23.5	3,057	61,843	20.2	2,686	70,989	26.4
Totals	98,958	2,171,491	21.9	86,740	1,875,608	21.6	97,307	2,371,010	24.4
Victoria	39,298	990,310	25.2	34,083	783,909	23.0	30,438	765,833	25.2
Peterborough	15,168	309,427	20.4	14,099	256,884	18.2	13,832	335,228	24.2
Haliburton	258	5,547	21.5	285	5,700	20.0	278	6.688	24.1
Hastings	41,438	704,446	17.0	33,406	577,258	17.3	40,565	930,955	22.9
Totals	96,162	2,009,730	20.9	81,873	1,623,751	19.8	85,113	2,038,704	24.0
Muskoka	449	9,698	21.6	589	13,064	22.2	543	11,843	21.9
Parry Sound	463	7,177	15.5	525	10,106	19.3	674	15,548	23.1
Algoma	568	17,040	30.0	433	12,990	30.0	564	15,212	27.0
Totals	1,480	33,915	22.9	1,547	36,160	23.4	1,781	42,603	23.9
The Province	895,432	23,366,569	26.1	767,346	17,134,830	22.3	757,525	19,766,436	26.1

OATS.

TABLE No. XIII.—Showing by County Municipalities and groups of Counties the area and produce of Oats in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8: also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	34,876	1,628,709	46.7	32,445	1,297,800	40.0	28,612	1,168,205	40.8
Kent	34,813	1,528,291	43.9	34,326	1,251,183	36.5	32,125	1,330,491	41.4
Elgin	35,815	1,651,072	46.1	33,131	1,065,162	32.2	31,939	1,271,526	39.8
Norfolk	28,829	1,072,439	37.2	28,135	598,150	21.3	26,449	902,107	34.1
Haldimand	26,729	1,165,384	43.6	22,780	577,929	25.4	21,975	774,026	35.2
Welland	22,017	854,260	38.8	21,160	556,296	26.3	19,073	632,224	33.1
Totals	183,079	7,900.155	43.2	171,977	5,346,520	31.1	160,173	6,078,579	38.0
Lambton	45,397	2,033,786	44.8	40,519	1,258,925	31.1	38,140	1,465,849	38.4
Huron	92,407	3,456,022	37.4	78,530	2,840,430	36.2	73,916	2,799,535	37.9
Bruce	73,123	2,281,438	31.2	61,746	1,835,091	29.7	57,332	1,940,094	33.8
Totals	210,927	7,771,246	36.8	180,795	5,934,446	32.8	169,388	6,205,478	36.6
Grey	108,125	3,059,938	28.3	90,888	2,602,123	28.6	83,377	2,687,883	32.2
Simcoe	74,728	2,256,786	30.2	66,934	1,910,966	28.6	61,059	2,077,794	34.0
Totals	182,853	5,316,724	29.1	157,822	4,513,089	28.6	144,436	4,765,677	33.0
Middlesex	85,378	3,654,178	42.8	72,309	2,350,042	32.5	69,860	2,763,046	39.6
Oxford	60,470	2,515,552	41.6	54,971	1,696,955	30.9	51,119	2,027,896	39.7
Brant	18,553	718,001	38.7	18,595	499,648	26.9	17,770	667,584	37.6
Perth	66,327	2,997,980	45.2	58,300	2,102,881	36.1	53,828	2,236,884	41.6
Wellington	85,120	3,123,904	36.7	77,013	2,389,713	31.0	67,219	2,467,757	36.7
Waterloo	40,997	1,619,382	39.5	36,396	1,193,789	32.8	34,087	1,314,899	38.6
Dufferin	34,921	1,302,553	37.3	31,944	1,034,347	32.4	27.734	978,108	35.3
Totals	391,766	15,931,550	40.7	349,528	11,267,375	32.2	321,617	12,456,174	38.7
Lincoln	18,101	762,052	42.1	18,451	426,772	23.1	17,519	614,273	35.1
Wentworth	30,595	1,333,942	43.6	28,861	744,902	25.8	28,090	1.085,994	38.7
Halton	20,902	800,547	38.3	18,729	579,850	31.0	18,142	668,986	36.9
Peel	35,399	1,384,101	39.1	28,882	893,320	30.9	27,813	1,056,163	38.0
York	70,478	3,129,223	44.4	66,076	2,192,402	33.2	60,642	2,487,384	41.0
Ontario	57,485	2,443,113	42.5	48,812	1,600,545	32.8	47,068	1,830,676	38.9
Durham	36,950	1,296,945	35.1	33,122	962,194	29.1	32,832	1,203,823	36.7
Northumberland	33,031	832,381	25.2	33,194	723,301	21.8	29,184	880,218	30.2
Prince Edward	12,896	366,246	28.4	13,747	271,916	19.8	13,437	373,016	27.8
Totals	315,837	12,348,550	39.1	289,874	8,395,202	29.0	274,727	10,200,533	37.1
Lennox and Addington	22,458	471,618	21.0	24,721	564,875	22.9	21,682	622,737	28.7
Frontenac	30,177	724,248	24.0	28,114	551,034	19.6	26,557	769,479	29.0
Leeds & Grenville	72,527	2,357,128	32.5	66,032	1,798,051	27.2	63,306	2,092,043	33.0
Dundas	33,184	1,317,405	39.7	29,716	841,854	28.3	28,884	1,083,742	37.5
Stormont	24,171	867,739	35.9	24,371	792,057	32.5	24,309	872,910	35.9
Glengarry	31,431	880,068	28.0	30,454	913,620	30.0	29,911	998,983	33.4
Prescott	26,617	910,301	34.2	27,632	889,198	32.2	25,510	823,598	32.3
Russell	18,261	536,873	29.4	19,261	561,843	29.2	17,877	585,098	32.7
Carleton	70,851	2,295,572	32.4	61,003	1,960,026	32.1	58,214	2,103,287	36.1
Renfrew	46,390	983,468	21.2	42,327	954,474	22.6	39,093	1,217,713	31.1
Lanark	40,739	953,293	23.4	40,619	965,920	23.8	35,507	1,128,231	31.8
Totals	416,806	12,297,713	29.5	394,250	10,792,952	27.4	370,850	12,297,821	33.2
Victoria	45,338	1,400,944	30.9	41,216	1,233,595	29.9	37,086	1,234,931	33.3
Peterborough	33,147	818,731	24.7	31,135	757,515	24.3	28,724	902,256	31.4
Haliburton	6,107	123,972	20.3	4,928	114,576	23.3	4,792	127,973	26.7
Hastings	42,939	944,658	22.0	42,510	912,690	21.5	40,940	1,197,215	29.2
Totals	127,531	3,288,305	25.8	119,789	3,018,376	25.2	111,542	3,462,375	31.0
Muskoka	10,137	249,370	24.6	9,326	242,756	26.0	8,303	241,803	29.1
Parry Sound	5,361	140,458	26.2	4,116	131,712	32.0	4,394	139,967	31.9
Algoma	5,571	222,840	40.0	4,986	205,673	41.3	3,941	149,018	37.8
Totals	21,069	612,668	29.1	18,428	580,141	31.5	16,638	530,788	31.9
The Province	1,849,868	65,466,911	35.4	1,682,463	49,848,101	29.6	1,569,371	55,997,425	35.7

RYE.

TABLE No. XIV.—Showing by County Municipalities and groups of Counties the area and produce of Rye in Ontario for the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	837	20,004	23.9	659	12,468	18.9	788	16,580	21.0
Kent	813	18,536	22.8	1,051	17,268	16.4	621	13,255	21.3
Elgin	1,959	42,314	21.6	1,033	15,753	15.3	1,267	22,673	17.9
Norfolk	8,886	141,287	15.9	7,236	78,438	10.8	7,331	107,785	14.7
Haldimand	553	8,516	15.4	187	2,338	12.5	891	15,031	16.9
Welland	646	11,111	17.2	509	7,238	14.2	668	11,590	17.4
Totals	13,694	241,768	17.7	10,675	133,503	12.5	11,566	186,914	16.2
Lambton	316	5,530	17.5	55	825	15.0	210	3,410	16.2
Huron	236	3,540	15.0	218	3,968	18.2	271	4,825	17.8
Bruce	456	11,400	25.0	346	5,422	15.7	391	6,802	17.4
Totals	1,008	20,470	20.3	619	10,215	16.5	872	15,037	17.2
Grey	361	8,411	23.3	470	9,165	19.5	533	9,613	18.0
Simcoe	2,465	39,440	16.0	1,419	22,505	15.9	2,260	41,731	18.5
Totals	2.826	47,851	16.9	1,889	31,670	16.8	2,793	51,344	18.4
Middlesex	579	10,827	18.7	535	7,758	14.5	461	7,994	17.3
Oxford	1,643	28,424	17.3	672	8,602	12.8	1,157	17,543	15.2
Brant	1,596	28,888	18.1	967	12,893	13.3	950	14,585	15.4
Perth	45	675	15.0	414	4,140	10.0	227	3,313	14.6
Wellington	937	19,677	21.0	683	10,245	15.0	835	15,158	18.2
Waterloo	471	9,420	20.0	341	5,968	17.5	539	9,714	18.0
Dufferin	326	9,780	30.0	688	9,632	14.0	816	14,987	18.4
Totals	5,597	107,691	19.2	4,300	59,238	13.8	4,985	83,294	16.7
Lincoln	143	2,231	15.6	65	910	14.0	450	7,095	15.8
Wentworth	1,118	21,130	18.9	666	9,191	13.8	953	16,838	17.7
Halton	454	7,400	16.3	245	3,756	15.3	495	8,307	16.8
Peel	969	19,380	20.0	123	1,476	12.0	1,423	28,782	20.2
York	1,331	25,688	19.3	610	9,913	16.3	1,803	28,917	16.0
Ontario	1,833	34,827	19.0	1,459	22,863	15.7	2,929	52,134	17.8
Durham	3,871	60,775	15.7	3,568	43,101	12.1	5,119	77,674	15.2
Northumberland	10,014	125,175	12.5	9,035	100,831	11.2	11,382	155,398	13.7
Prince Edward	8,647	115,870	13.4	6,249	74,113	11.9	9,115	125,186	13.7
Totals	28,380	412,476	14.5	22,020	266,154	12.1	33,669	500,331	14.9
Lennox and Addington	3,233	37,503	11.6	2,872	40,811	14.2	5,272	78,141	14.8
Frontenac	2,820	39,480	14.0	1,015	12,495	12.3	3,800	63,073	16.6
Leeds and Grenville	1,749	23,262	13.3	1,776	22,289	12.6	6,865	121,101	17.6
Dundas	981	15,696	16.0	693	8,316	12.0	1,502	34,309	22.8
Stormont	240	4,800	20.0	181	3,801	21.0	503	10,590	21.1
Glengarry	18	270	15.0	....	....	.....	59	1,030	17.5
Prescott	173	3,495	20.2	50	663	13.3	291	5,398	18.5
Russell	12	360	30.0	24	720	30.0	232	4,540	19.6
Carleton	3,326	56,209	16.9	3,317	53,570	16.2	6,464	115,310	17.8
Renfrew	4,305	63,714	14.8	4,821	65,999	13.7	6,647	129,002	19.4
Lanark	2,129	25,548	12.0	1,283	18,450	14.4	4,989	94,968	19.0
Totals	18,986	270,337	14.2	16,032	227,114	14.2	36,624	657,462	18.0
Victoria	1,023	20,460	20.0	365	7,300	20.0	1,147	19,298	16.8
Peterborough	2,073	32,132	15.5	2,133	27,153	12.7	3,249	52,227	16.1
Haliburton	122	1,867	15.3	258	3,225	12.5	263	4,409	16.8
Hastings	9,479	126,071	13.3	9,583	121,129	12.6	14,654	225,967	15.4
Totals	12,697	180,530	14.2	12,339	158,807	12.9	19,313	301,901	15.6
Muskoka	277	4,377	15.8	248	4,216	17.0	402	7,855	19.5
Parry Sound	150	2,250	15.0	55	825	15.0	371	7,708	20.8
Algoma	472	7,552	16.0	185	3,145	17.0	166	2,790	16.8
Totals	899	14,179	15.8	488	8,186	16.8	939	18,353	19.5
The Province	84,087	1,295,302	15.4	68,362	894,887	13.1	110,761	1,814,636	16.4

PEASE.

TABLE No. XV.—Showing by County Municipalities and groups of Counties the area and produce of Pease in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	3,903	91,721	23.5	5,574	82,774	14.9	3,857	73,649	19.1
Kent	15,228	327,402	21.5	16,297	262,708	16.1	9,873	200,681	20.3
Elgin	14,833	370,825	25.0	17,862	200,054	11.2	11,863	230,751	19.5
Norfolk	17,693	431,709	24.4	20,196	192,468	9.5	14,227	279,075	19.6
Haldimand	14,433	362,268	25.1	14,120	156,308	11.1	12,942	247,672	19.1
Welland	4,402	97,724	22.2	5,412	75,227	13.9	3,970	69,414	17.5
Totals	70,492	1,681,649	23.9	79,461	969,539	12.2	56,732	1,101,242	19.4
Lambton	11,843	291,338	24.6	13,685	169,147	12.4	8,984	179,386	20.0
Huron	36,002	838,847	23.3	36,306	806,719	22.2	30,791	702,508	22.8
Bruce	40,152	831,146	20.7	39,263	883,025	22.5	36,410	834,852	22.9
Totals	87,997	1,961,331	22.3	89,254	1,858,891	20.8	76,185	1,716,746	22.5
Grey	50,168	862,890	17.2	46,286	943,309	20.4	44,815	951,289	21.2
Simcoe	33,023	567,996	17.2	32,068	566,321	17.7	30,907	656,765	21.2
Totals	83,191	1,430,886	17.2	78,354	1,509,630	19.3	75,722	1,608,054	21 2
Middlesex	28,687	708,569	24.7	27,294	466,454	17.1	20,864	426,421	20.4
Oxford	18,364	516,028	28.1	19,025	330,464	17.4	14,736	338,411	23.0
Brant	8,941	213,690	23.9	10,050	95,173	9.5	8,652	168,881	19.5
Perth	27,108	734,627	27.1	24,245	535,814	22.1	22,046	528,284	24.0
Wellington	39,575	933,970	23.6	40,801	861,309	21.1	36,717	846,034	23.0
Waterloo	16,384	439,091	26.8	15,736	243,436	15.5	13,832	317,931	23.0
Dufferin	13,023	272,181	20.9	11,872	251,568	21.2	11,280	235,012	20.8
Totals	152,082	3,818,156	25.1	149,023	2,784,218	18.7	128,127	2,860,974	22.3
Lincoln	5,014	111,812	22.3	5,723	64,842	11.3	4,536	84,356	18.6
Wentworth	12,447	313,664	25.2	12,436	175,348	14.1	10,167	212,108	20.9
Halton	10,704	259,037	24.2	11,734	136,466	11.6	10,239	221,344	21.6
Peel	15,851	369,328	23.3	14,981	221,569	14.8	13,128	275,688	21.0
York	32,016	813,206	25.4	29,657	570,897	19.3	27,149	612,398	22.6
Ontario	28,916	627,477	21.7	31,585	530,312	16.8	26,240	556,246	21.2
Durham	20,671	336,937	16.3	24,251	385,348	15.9	21,621	425,851	19.7
Northumberland	20,895	198,503	9.5	23,388	242,767	10.4	20,309	328,156	16.2
Prince Edward	17,794	249,116	14.0	22,979	252,769	11.0	11,972	199,415	16.7
Totals	164,308	3,279,080	20.0	176,734	2,580,318	14.6	145,361	2,915,562	20.1
Lennox and Addington	8,229	96,279	11.7	9,181	110,539	12.0	8,680	155,499	17.9
Frontenac	9,103	132,904	14.6	10,625	122.188	11.5	11,222	199,967	17.8
Leeds and Grenville	6,369	106,999	16.8	6,246	103,371	16.6	6,372	122,713	19.3
Dundas	1,593	35,843	22.5	1,761	35,220	20.0	1,751	38,823	22.2
Stormont	2,189	54,725	25.0	2,469	43,825	17.8	2,699	57,086	21.2
Glengarry	4,455	77,517	17.4	4,944	108,768	22.0	6,177	113,184	18.3
Prescott	4,855	110,209	22.7	7,090	123,721	17.5	9,533	154,371	16.2
Russell	1,909	30,353	15.9	3,155	59,314	18.8	3,963	77,748	19.6
Carleton	12,120	208,464	17.2	12,790	269,741	21.1	13,251	277,731	21.0
Renfrew	19,074	303,277	15.9	20,308	320,866	15.8	20,531	397,431	19.4
Lanark	11,049	142,532	12.9	11,755	183,966	15.7	11,323	238,296	21.0
Totals	80,945	1,299,102	16.0	90,324	1,481,519	16.4	95,502	1,832,849	19.2
Victoria	15,316	243,524	15.9	18,219	322,112	17.7	15,912	316,261	19.9
Peterborough	14,191	144,748	10.2	15,959	207,467	13.0	14,990	273,318	18.2
Haliburton	1,472	20,608	14.0	1,735	32,531	18.8	1,536	28,866	18.8
Hastings	17,930	191,851	10.7	19,769	220,622	11.2	17,952	298,331	16.6
Totals	48,909	600,731	12.3	55,682	782,732	14.1	50,390	916,776	18.2
Muskoka	2,748	51,113	18.6	2,816	54,011	19.2	2,651	53,973	20.4
Parry Sound	1,394	33,140	23.8	1,208	30,599	25.3	1,294	28,032	21.7
Algoma	4,587	114,675	25.0	3,900	121,875	31.3	3,450	89,301	25.9
Totals	8,729	198,928	22.8	7,924	206,485	26.1	7,395	171,306	23.2
The Province	696,653	14,269,863	20.5	726,756	12,173,332	16.8	635,414	13,123,509	20.7

CORN.

TABLE No. XVI.—Showing by County Municipalities and groups of Counties the area and produce of Corn in Ontario in the years 1887 and 1888, with the yearly average of the six years 1882-8 (1883 not included); also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the six years 1882-8.		
	Acres.	Bushels (in ear).	Bush. per acre.	Acres.	Bushels (in ear).	Bush. per acre.	Acres.	Bushels (in ear).	Bush. per acre.
Essex	35,308	3,273,052	92.7	29,523	1,858,768	63.0	31,094	2,412,985	77.6
Kent	28,994	2,336,916	80.6	23,568	1,146,583	48.7	26,018	1,908,177	73.3
Elgin	17,128	1,534,669	89.6	13,805	722,692	52.4	14,763	1,116,637	75.6
Norfolk	16,711	1,361.947	81.5	13,758	435,716	31.7	14,221	942,639	66.3
Haldimand	2,898	274,151	94.6	1,214	73,775	60.8	1,849	131,348	71.0
Welland	7,240	623,364	86.1	5,267	323,025	61.3	6,319	411,259	65.1
Totals	108,279	9,404,099	86.9	87,135	4,560,559	52.3	94,264	6,923,045	73.4
Lambton	9,067	719,013	79.3	6,209	307,780	49.6	7,197	456,923	63.5
Huron	1,884	168,806	89.6	923	76,729	83.1	1,509	111,766	74.1
Bruce	1,024	61,440	60.0	416	20,800	50.0	491	28,507	58.1
Totals	11,975	949,259	79.3	7,548	405,309	53.7	9,197	597,196	64.9
Grey	822	41,100	50.0	436	17,440	40.0	409	20,865	51.0
Simcoe	1,091	78,225	71.7	757	20,187	26.7	751	41,589	55.4
Totals	1,913	119,325	62.4	1,193	37,627	31.5	1,160	62,454	53.8
Middlesex	13,830	1,102,251	79.7	9,130	457,048	50.1	10,678	749,857	70.2
Oxford	10,512	791,554	75.3	7,501	379,926	50.7	8,458	550,623	65.1
Brant	6,247	471,649	75.5	4,005	193,562	48.3	4,670	326,643	69.9
Perth	1,002	82,665	82.5	787	41,973	53.3	688	48,447	70.4
Wellington	778	50,570	65.0	490	24,500	50.0	530	32,170	60.7
Waterloo	1,196	80,730	67.5	777	27,972	36.0	1,284	84,184	65.6
Dufferin	119	5,950	50.0	98	3,920	40.0	66	3,474	52.6
Totals	33,684	2,585,369	76.8	22,788	1,128,901	49.5	26,374	1,795,398	68.1
Lincoln	8,002	696,174	87.0	6,036	320,089	53.0	6,241	423,994	67.9
Wentworth	4,675	412,803	88.3	4,210	229,782	54.6	4,406	330,235	75.0
Halton	1,639	131,120	80.0	930	24,800	26.7	1,077	64,030	59.5
Peel	887	44,350	50.0	395	15,800	40.0	441	24,193	54.9
York	1,939	143,486	74.0	1,121	58,853	52.5	1,325	88,780	67.0
Ontario	3,501	277,279	79.2	2,296	98,407	42.9	2,461	149,944	60.9
Durham	2,250	96,975	43.1	1,592	50,037	31.4	1,810	90,127	49.8
Northumberland	5,235	274,314	52.4	3,572	163,419	45.8	3,766	200,111	53.1
Prince Edward	7,169	453,081	63.2	4,939	191,386	38.8	5,756	267,841	46.5
Totals	35,297	2,529,582	71.7	25,091	1,152,573	45.9	27,283	1,639,255	60.1
Lennox and Addington	2,930	160,271	54.7	1,746	72,023	41.3	2,210	110,596	50.0
Frontenac	2,080	112,736	54.2	1,392	63,712	45.8	1,657	85,297	51.5
Leeds and Grenville	7,581	521,573	68.8	4,859	316,272	65.1	5,116	312,836	61.1
Dundas	2,466	164,236	66.6	1,283	117,613	91.7	1,556	105,721	67.9
Stormont	1,347	80,820	60.0	1,162	65,851	56.7	1,245	67,819	54.5
Glengarry	783	31,320	40.0	474	23,700	50.0	704	30,075	42.7
Prescott	1,317	87,976	66.8	960	56,726	59.1	1,325	68,392	51.6
Russell	426	17,040	40.0	373	10,258	27.5	407	17,925	44.0
Carleton	1,967	85,565	43.5	925	43,318	46.8	1,253	59,602	47.6
Renfrew	466	13,980	30.0	426	25,560	60.0	447	23,293	52.1
Lanark	1,585	61,815	39.0	958	50,228	52.4	1,267	58,015	45.8
Totals	22,948	1,337,332	58.3	14,558	845,261	58.1	17,187	939,571	54.7
Victoria	883	70,640	80.0	537	26,850	50.0	502	32,644	65.0
Peterborough	392	15,680	40.0	376	10,528	28.0	347	16,511	47.6
Haliburton	79	3,950	50.0	90	3.600	40.0	114	5,499	48.2
Hastings	7,126	406,895	57.1	4,338	221,238	51.0	5,350	266,979	49.9
Totals	8,480	497,165	58.6	5,341	262,216	49.1	6,313	321,633	50.9
Muskoka	221	6,299	28.5	169	9,506	56.3	205	7,505	36.6
Parry Sound	35	1,400	40.0	35	1,400	40.0	33	1,500	45.5
Algoma	139	6,950	50.0	35	1,400	40.0	68	3,240	47.6
Totals	395	14,649	37.1	239	12,306	51.5	306	12,245	40.0
The Province	222,971	17,436,780	78.2	163,893	8,404,752	51.3	182,084	12,290,797	67.5

BUCKWHEAT.

TABLE No. XVII.—Showing by County Municipalities and groups of Counties the area and produce of Buckwheat in Ontario in the years 1887 and 1888, with the yearly average for the six years 1882-8 (1883 not included); also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the six years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	589	15,785	26.8	487	10,310	21.2	586	15,256	26.0
Kent	719	13,445	18.7	919	15,807	17.2	834	18,717	22.4
Elgin	1,123	22,460	20.0	1,372	19,963	14.6	1,246	25,358	20.4
Norfolk	4,107	85,836	20.9	4,912	74,712	15.2	4,733	93,278	19.7
Haldimand	951	16,928	17.8	798	9,895	12.4	739	13,672	18.5
Welland	1,754	35,957	20.5	1,584	26,136	16.5	1,736	33,542	19.3
Totals	9,243	190,411	20.6	10,072	156,823	15.6	9,874	199,823	20.2
Lambton	361	6,642	18.4	311	8,008	25.8	402	8,987	22.4
Huron	137	2,055	15.0	243	6,075	25.0	254	4,730	18.6
Bruce	241	2,410	10.0	469	11,256	24.0	328	5,813	17.7
Totals	739	11,107	15.0	1,023	25,339	24.8	984	19,530	19.8
Grey	253	4 175	16·5	386	4,439	11.5	329	5,935	18.0
Simcoe	234	3,510	15.0	449	6,735	15.0	335	5,401	16.1
Totals	487	7,685	15.8	835	11,174	13.4	664	11,336	17.1
Middlesex	444	8,347	18.8	773	8,812	11.4	563	10,026	17.8
Oxford	484	7,260	15.0	622	6,220	10.0	619	12,097	19.5
Brant	532	12,023	22.6	731	7,676	10.5	678	13,784	20.3
Perth	64	960	15.0	117	1,170	10.0	119	2,430	20.4
Wellington	118	2,360	20.0	75	1,500	20.0	129	2,886	22.4
Waterloo	48	720	15.0	107	2,140	20.0	93	1,952	21.0
Dufferin	69	1,725	25.0	224	4,480	20.0	106	2,076	19.6
Totals	1,759	33,395	19.0	2,649	31,998	12.1	2,307	45,251	19.6
Lincoln	577	12,809	22.2	562	8,930	15.9	665	16,394	24.7
Wentworth	681	18,796	27.6	503	8,048	16.0	691	15,924	23.0
Halton	222	2,220	10.0	172	2,580	15.0	170	2,679	15.8
Peel	381	5,715	15.0	207	3,105	15.0	242	4,261	17.6
York	202	4,545	22.5	248	3,100	12.5	275	5,995	21.8
Ontario	472	11,800	25.0	405	7,561	18.7	388	9,005	23.2
Durham	1,788	42,912	24.0	1,208	23,471	19.4	1,094	23,691	21.7
Northumberland	6,105	114,774	18.8	6,501	128,395	19.8	5,158	108,468	21.0
Prince Edward	7,609	232,075	30.5	7,226	130,429	18.1	6,560	153,588	23.4
Totals	18,037	445,646	24.7	17,032	315,619	18.5	15,243	340,005	22.3
Lennox and Addington	2,053	43.934	21.4	2,802	43,151	15.4	2,649	63,448	24.0
Frontenac	1,306	30,169	23.1	1,981	34,093	17.2	1,533	35,872	23.4
Leeds and Grenville	5,020	82,830	16.5	4,515	81,089	18.0	5,256	118,507	22.5
Dundas	1,562	43,736	28.0	1,586	27,755	17.5	1,459	39,737	27.2
Stormont	1,609	37,972	23.6	1,998	44,955	22.5	2,053	54,368	26.5
Glengarry	1,156	23,120	20.0	713	11,408	16.0	964	23,718	24.6
Prescott	1,121	26,456	23.6	1,373	13.730	10.0	1,578	33,699	21.4
Russell	570	12,597	22.1	998	13,307	13.3	957	22,143	23.1
Carleton	3,443	57,498	16.7	4,390	41,310	9.4	3,862	79,363	20.5
Renfrew	935	15,895	17.0	1,266	19,357	15.3	1,117	25,500	22.8
Lanark	3,696	60,245	16.3	4,739	54,783	11.6	5,739	132,701	23.1
Totals	22,471	434,452	19.3	26,361	384,938	14.6	27,167	629,056	23.2
Victoria	392	5,880	15.0	373	3,357	9.0	407	6,289	15.5
Peterborough	455	9,146	20.1	997	11,366	11.4	702	14,226	20.3
Haliburton	166	2,490	15.0	143	1,716	12.0	237	3,405	14.4
Hastings	3,427	76,079	22.2	4,274	71,233	16.7	3,658	87,050	23.8
Totals	4,440	93,595	21.1	5,787	87,672	15.1	5,004	110.970	22.2
Muskoka	262	4,192	16.0	274	9,590	35.0	288	7,809	27.1
Parry Sound	13	260	20.0	21	420	20.0	99	2,344	23.7
Algoma	77	1,540	20.0	89	1,780	20.0	55	1,303	23.7
Totals	352	5,992	17.0	384	11,790	30.7	442	11,456	25.9
The Province	57,528	1,222,283	21.2	64 143	1,025,353	16.0	61,685	1,367,427	22.2

BEANS.

TABLE No. XVIII.—Showing by County Municipalities and groups of Counties the area and produce of Beans in Ontario in the years 1887 and 1888, with the yearly average for the six years 1882-8 (1883 not included); also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the six years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	405	9,720	24.0	341	5,286	15.5	449	11,253	25.1
Kent	13,267	323,715	24.4	12,605	152,521	12.1	11,531	229,801	19.9
Elgin	955	22,729	23.8	946	12,676	13.4	1,049	23,264	22.2
Norfolk	256	6,400	25.0	298	3,874	13.0	619	11,660	18.8
Haldimand	210	4,473	21.3	55	825	15.0	142	2,995	21.1
Welland	507	9,380	18.5	289	3,000	10.4	673	10,937	16.3
Totals	15,600	376,417	24.1	14,534	178,182	12.3	14,463	289,910	20.0
Lambton	264	6,600	25.0	375	5,085	13.6	353	7,272	20.6
Huron	136	4,080	30.0	48	1,120	23.3	114	3,157	27.7
Bruce	78	2,418	31.0	126	2,520	20.0	103	1,959	19.0
Totals	478	13,098	27.4	549	8,725	15.9	570	12,388	21.7
Grey	83	1,378	16.6	106	1,484	14.0	107	1,754	16.4
Simcoe	147	2,058	14.0	60	1,875	31.3	105	2,027	19.3
Totals	230	3,436	14.9	166	3,359	20.2	212	3,781	17.8
Middlesex	253	6,350	25.1	165	2,035	12.3	317	6,148	19.4
Oxford	225	6,300	28.0	134	3,350	25.0	221	6,357	28.8
Brant	46	1,086	23.6	120	1,230	10.3	473	8,592	18.2
Perth	67	1,675	25.0	74	1,332	18.0	61	1,491	24.4
Wellington	50	900	18.0	42	756	18.0	36	684	19.0
Waterloo	30	750	25.0	28	560	20.0	34	732	21.5
Dufferin	21	420	20.0	27	729	27.0	18	385	21.4
Totals	692	17,481	25.3	590	9,992	16.9	1,160	24,389	21.0
Lincoln	172	4,592	26.7	99	1,208	12.2	151	3,245	21.5
Wentworth	107	3,210	30.0	109	1,908	17.5	124	2,682	21.6
Halton	43	860	20.0	35	642	18.3	42	816	19.4
Peel	56	1,120	20.0	43	860	20.0	59	1,498	25.4
York	138	3,312	24.0	91	2,093	23.0	137	3,744	27.3
Ontario	95	2,138	22.5	64	1,446	22.6	262	6,086	23.2
Durham	301	6,321	21.0	286	4,035	14.1	309	6,348	20.5
Northumberland	508	12,598	24.8	284	6,026	21.2	504	11,410	22.6
Prince Edward	462	9,425	20.4	435	4,829	11.1	479	10,038	21.0
Totals	1,882	43,576	23.2	1,446	23,047	15.9	2,067	45,867	22.2
Lennox and Addington	86	2,047	23.8	211	3,412	16.2	165	3,113	18.9
Frontenac	261	5,324	20.4	217	4,883	22.5	321	8,678	27.0
Leeds and Grenville	341	8,116	23.8	326	7,873	24.2	365	8,254	22.6
Dundas	424	8,480	20.0	296	5,920	20.0	233	5,455	23.4
Stormont	270	5,400	20.0	121	2,420	20.0	163	4,240	26.0
Glengarry	69	1,725	25.0	72	1,440	20.0	88	2,462	28.0
Prescott	505	11,767	23.3	290	5,055	17.4	498	14,365	28.8
Russell	109	2,867	26.3	132	1,804	13.7	217	4,941	22.8
Carleton	412	7,292	17.7	342	4,388	12.8	451	9,990	22.2
Renfrew	435	8,048	18.5	346	5,536	16.0	451	10,616	23.5
Lanark	217	5,794	26.7	218	4,033	18.5	213	5,150	24.2
Totals	3,129	66,860	21.4	2,571	46,764	18.2	3,165	77,264	24.4
Victoria	62	1,550	25.0	88	1,408	16.0	82	1,583	19.3
Peterborough	48	600	12.5	51	765	15.0	135	2,062	15.3
Haliburton	24	480	20.0	30	300	10.0	26	478	18.4
Hastings	446	9,232	20.7	224	3,002	13.4	284	6,139	21.6
Totals	580	11,862	20.5	393	5,475	13.9	527	10.262	19.5
Muskoka	64	896	14.0	22	363	16.5	40	832	20.8
Parry Sound	10	200	20.0	2	38	19.0	13	287	22.1
Algoma	35	700	20.0	2	30	15.0	10	202	20.2
Totals	109	1,796	16.5	26	431	16.6	63	1,321	21.0
The Province	22.700	534,526	23.5	20,275	275,975	13.6	22,227	465,182	20.9

HAY AND CLOVER.

TABLE No. XIX.—Showing by County Municipalities and groups of Counties the area and produce of Hay and Clover in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Tons.	Tons per acre.	Acres.	Tons.	Tons per acre.	Acres.	Tons.	Tons per acre.
Essex	38,163	55,718	1.46	35,483	51,450	1.45	35,200	53,903	1.53
Kent	53,476	66,845	1.25	47,890	71,835	1.50	50,337	73,906	1.47
Elgin	48,882	59,147	1.21	49,728	65,641	1.32	48,565	69,081	1.42
Norfolk	35,919	23,946	.67	40,773	45,258	1.11	40,060	51,771	1.29
Haldimand	47,226	27,863	.59	50,710	64,402	1.27	49,165	62,768	1.28
Welland	47,306	29,803	.63	46,195	59,130	1.28	45,690	59,016	1.29
Totals	270,972	263.322	.97	270,779	357,716	1.32	269,017	370,445	1.38
Lambton	54,104	58,432	1.08	49,834	79,734	1.60	52,017	73,780	1.42
Huron	97,987	94,068	.96	97,148	150,579	1.55	91,901	124,902	1.36
Bruce	91,116	91,116	1.00	88,775	133,163	1.50	80,503	99,559	1.24
Totals	243,207	243,616	1.00	235,757	363,476	1.54	224,421	298,241	1.33
Grey	121,857	104,797	.86	117,549	153.989	1.31	112,388	129,866	1.16
Simcoe	81,761	67,862	.83	74,631	108,215	1.45	73,670	95,606	1 30
Totals	203,618	172,659	.85	192,180	262,204	1.36	186,058	225,472	1 21
Middlesex	90,190	104,620	1.16	82,900	108,599	1.31	87,718	129,033	1.47
Oxford	58,867	68,286	1.16	60,122	78,760	1.31	61.481	90,183	1.47
Brant	26,869	15,315	.57	32,372	38.523	1.19	31,826	43,400	1.36
Perth	67,786	84,055	1.24	68,590	104.943	1.53	66,011	97,834	1.48
Wellington	85,397	78,565	.92	84,159	138,021	1.64	81,127	120,767	1.49
Waterloo	42,182	50,618	1.20	41,286	58,213	1.46	42,340	65,358	1.54
Dufferin	35,259	23,976	.68	32,700	49,050	1.50	32,559	41,622	1.28
Totals	406,550	425,435	1.05	402,129	576,109	1.43	403,062	588,197	1.46
Lincoln	41,221	28,442	.69	42,930	54,521	1.27	40,814	51,976	1.27
Wentworth	42,906	36,899	.86	44,943	52,124	1.16	44,813	62,135	1.39
Halton	31,019	17,060	.55	33,925	37,318	1.10	33,722	45,002	1.33
Peel	35,328	19,184	.56	39,198	51,741	1.32	37,463	52,971	1.41
York	68.379	48.549	.71	72,438	105,036	1.45	71,415	96,439	1.35
Ontario	50,860	37,128	.73	53,566	73,921	1.38	51,746	71,433	1.38
Durham	40,301	28,614	.71	41,610	57,838	1.39	43,233	58,411	1.35
Northumberland	51,821	36,793	.71	52,841	58,654	1.11	52,387	64,592	1.23
Prince Edward	26,036	12,237	.47	27,111	30,907	1.14	29,193	37,101	1.27
Totals	387,871	264,906	.68	408,562	522,060	1.28	404,786	540,060	1.33
Lennox and Add.	52,102	26,051	.50	52,432	39,324	.75	45,379	52,205	1.15
Frontenac	63,775	29,337	.46	62,123	44,729	.72	60,789	67,822	1.12
Leeds and Gren.	112,019	77,293	.69	114,820	129,747	1.13	108,499	137,523	1.27
Dundas	36,399	49,503	1.36	34.905	55,848	1.60	33,828	52,310	1.55
Stormont	34,482	49,999	1.45	31,781	47,672	1.50	31,061	47,398	1.53
Glengarry	40,781	63,211	1.55	35,595	68,342	1.92	34,470	55,819	1.62
Prescott	36,117	48,036	1.33	35,009	55,664	1.59	30,425	43,235	1.42
Russell	17,119	17,119	1.00	19,121	33,462	1.75	17,605	23,295	1.32
Carleton	61,871	63,727	1.03	62,209	110,732	1.78	57,533	77,739	1.35
Renfrew	68,597	34,299	.50	65,443	88,348	1.35	60,849	64,295	1.06
Lanark	61,151	40,360	.66	62,056	104,875	1.69	58,661	79,779	1.36
Totals	584,413	498,935	.85	575,494	778,743	1.35	539,099	701,420	1.30
Victoria	35,044	23,129	.66	40,385	47,250	1.17	37,031	42,527	1.15
Peterborough	37,811	19,284	.51	37,714	34,697	.92	37,625	40.862	1.09
Haliburton	10,974	9,108	.83	9,767	13,478	1.38	9,788	10,329	1.06
Hastings	69,040	46,947	.68	66,237	81,472	1.23	65,853	80,613	1.22
Totals	152,869	98,468	.64	154,103	176,897	1.15	150,297	174,331	1.16
Muskoka	22,699	22,245	.98	23,100	35,112	1.52	20,177	23,782	1.18
Parry Sound	9,461	6,623	.70	7,651	10,405	1.36	8,870	9,378	1.06
Algoma	10,978	12,808	1.17	10,888	10,888	1 00	9,463	11,574	1.22
Totals	43,138	41,676	.97	41,639	56,405	1.35	38,510	44,734	1.16
The Province	2,292,638	2.009,617	.88	2,280,643	3,093,610	1.36	2,215,250	2,942,900	1.33

POTATOES.

TABLE No. XX.—Showing by County Municipalities and groups of Counties the area and produce of Potatoes in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	2,807	413,190	147.2	2,697	128,512	47.7	2,836	317,014	111.8
Kent	2,988	463,140	155.0	2,910	149,516	51.4	3,445	459,269	133.3
Elgin	2,890	486,098	168.2	2,794	143,081	51.2	2,920	308,141	105.5
Norfolk	3,004	410,046	136.5	3,093	102,502	33.1	3,538	387,844	109.6
Haldimand	1,429	243,216	170.2	1,153	56,739	49.2	1,527	182,490	119.5
Welland	2,238	298,325	133.3	2,233	110,065	49.3	2,441	246,335	100.9
Totals	15,356	2,314,015	150.7	14,880	690,415	46.4	16,707	1,901,093	113.8
Lambton	3,013	454,662	150.9	2,649	160,980	60.8	3,031	330,956	109.2
Huron	5,045	666,949	132.2	4,628	381,532	82.4	5,140	635,998	123.7
Bruce	4,857	757,692	156.0	4,292	306,792	71.5	4,816	561,051	116.5
Totals	12,915	1,879,303	145.5	11,569	849,304	73.4	12,987	1,528,005	117.7
Grey	6,779	1,039,899	153.4	6,025	575,388	95.5	6,973	880,074	126.2
Simcoe	6,898	1,122,305	162.7	6,111	387,926	63.5	6,741	871,038	129.2
Totals	13,677	2,162,204	158.1	12,136	963,314	79.4	13,714	1,751,112	127.7
Middlesex	5,250	836,325	159.3	4,890	305,576	62.5	5,711	635,002	111.2
Oxford	3,151	605,622	192.2	2,836	171,578	60.5	3,355	385,777	115.0
Brant	2,207	296,842	134.5	2,047	121,449	59.3	2,231	257,461	115.4
Perth	3,599	589,876	163.9	3,421	293,693	85.9	3,848	452,861	117.7
Wellington	6,030	859,878	142.6	5,303	448,104	84.5	5,933	722,758	121.8
Waterloo	2,867	476,782	166.3	2,715	210,331	77.5	2,936	368,486	125.5
Dufferin	3,237	598,845	185.0	2,839	309,792	109.1	3,081	443,226	143.9
Totals	26,341	4,264,170	161.9	24,051	1,860,523	77.4	27.095	3,265,571	120.5
Lincoln	2,004	299,398	149.4	1,831	116,928	63.9	1,970	203,331	103.2
Wentworth	3,402	498,053	146.4	2,928	218,692	74.7	3,559	446,100	125.3
Halton	1,543	241,788	156.7	1,450	60,639	41.8	1,639	191,837	117.0
Peel	3,069	433,650	141.3	2,735	142,576	52.1	2,864	320,094	111.8
York	7,867	1,335,030	169.7	6,408	467,528	73.0	7,569	791,259	104.5
Ontario	4,653	890,119	191.3	3,801	316,053	83.2	4,050	526,321	130.0
Durham	3,119	449,136	144.0	3,117	207,592	66.6	3,163	408,715	129.2
Northumberland	4,596	607,132	132.1	4,425	272,359	61.6	4,274	472,736	110.6
Prince Edward	2,433	328,455	135.0	2,201	123,344	56.0	2,439	239,294	98.1
Totals	32,686	5,082,761	155.5	28,896	1,925,711	66.6	31,527	3,599,687	114.2
Lennox and Addington	2,736	310,810	113.6	3,276	225,225	68.8	3,322	385,243	116.0
Frontenac	4,230	503,793	119.1	3,260	223,351	71.6	4,015	422,428	105.2
Leeds and Grenville	7,375	956,538	129.7	6,612	653,199	98.8	7,274	913,877	125.6
Dundas	2,498	278,027	111.3	2,129	252,819	118.8	2,456	363,539	148.0
Stormont	1,983	255,014	128.6	1,838	238,940	130.0	2,081	271,737	130.6
Glengarry	2,200	297,000	135.0	2,239	268,680	120.0	2,484	305,917	123.2
Prescott	2,205	441,000	200.0	2,369	250,474	105.7	2,412	317,762	131.7
Russell	1,252	109,049	87.1	1,407	115,205	81.9	1,517	154,215	101.7
Carleton	6,132	787,962	128.5	4,762	463,485	97.3	5,982	786,272	131.4
Renfrew	3,535	446,471	126.3	3,772	301,760	80.0	3,762	559,849	148.8
Lanark	3,328	398,029	119.6	3,354	279,221	83.3	3,603	513,044	142.4
Totals	37,474	4,783,693	127.7	35,018	3,272,359	93.4	38,908	4,993,883	128.4
Victoria	3,633	482,099	132.7	3,057	245,080	80.2	3,023	383,712	126.9
Peterborough	2,822	259,342	91.9	2,541	162,268	63.9	2,583	301,502	116.7
Haliburton	618	66,806	108.1	649	44,619	68.8	683	92,525	135.5
Hastings	5,428	630,191	116.1	4,716	312,671	66.3	5,833	704,649	120.8
Totals	12,501	1,438,438	115.1	10,963	764,638	69.7	12,122	1,482,388	122.3
Muskoka	1,427	175,949	123.3	1,417	124,965	88.2	1,321	175,439	132.8
Parry Sound	798	67,032	84.0	625	95,731	153.2	700	105,930	151.3
Algoma	740	106,042	143.3	728	131,040	180.0	685	116,077	169.5
Totals	2,965	349,023	117.7	2,770	351,736	127.0	2,706	397,446	146.9
The Province	153,915	22,273,607	144.7	140,283	10,678,000	76.1	155,766	18,919,185	121.5

MANGEL-WURZELS.

TABLE No. XXI.—Showing by County Municipalities and groups of Counties the area and produce of Mangel-wurzels in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	195	81,237	416.6	210	61,091	290.9	193	79,626	412.6
Kent	333	137,629	413.3	302	74,821	247.8	272	110,745	407.2
Elgin	363	175,438	483.3	258	73,100	283.3	273	109,756	402.0
Norfolk	323	147,773	457.5	212	46,574	219.7	197	78,001	395.9
Haldimand	307	127,405	415.0	197	48,643	246.9	152	51,459	338.6
Welland	243	128,450	528.6	145	36,431	251.3	146	61,037	418.1
Totals	1,764	797,932	452.3	1,324	340,660	257.3	1,233	490,624	397.9
Lambton	562	301,063	535.7	319	110,454	346.3	370	150,871	407.8
Huron	1,685	683,942	405.9	1,532	575,955	376.0	1,439	649,061	451.1
Bruce	397	148,796	374.8	359	90,716	252.7	411	175,039	425.9
Totals	2,644	1,133,801	428.8	2,210	777,125	351.6	2,220	974,971	439.2
Grey	320	117,184	366.2	314	113,225	360.6	350	160,239	457.8
Simcoe	468	163,800	350.0	682	151,956	222.8	660	261,842	396.7
Totals	788	280,984	356.6	996	265,181	266.2	1,010	422,081	417.9
Middlesex	1,653	848,816	513.5	1,389	400,365	288.2	1,283	556,145	433.5
Oxford	1,705	827,266	485.2	1,336	569,310	426.1	1,153	556,956	483.0
Brant	365	235,863	646.2	362	104,075	287.5	347	180,057	518.9
Perth	1,895	1,051,725	555.0	1,522	693,332	455.5	1,472	732,351	497.5
Wellington	1,111	465,842	419.3	756	262,566	347.3	859	389,353	453.3
Waterloo	518	226,625	437.5	469	145,390	310.0	457	211,768	463.4
Dufferin	95	25,536	268.8	113	41,358	366.0	127	49,025	386.0
Totals	7,342	3,681,673	501.5	5,947	2,216,396	372.7	5,698	2,675,655	469.6
Lincoln	342	164,776	481.8	217	65,033	299.7	239	90,662	379.3
Wentworth	482	266,594	553.1	388	134,182	345.8	428	222,248	519.3
Halton	499	349,300	700.0	372	159,264	428.1	415	195,998	472.3
Peel	611	305,500	500.0	432	123,841	286.7	432	174,971	405.0
York	1,951	904,289	463.5	1,466	414,937	283.0	1,708	800,068	468.4
Ontario	766	481,508	628.6	493	162,399	329.4	759	332,282	437.8
Durham	483	198,851	411.7	434	128,390	295.8	444	189,284	426.3
Northumberland	491	215,893	439.7	433	113,736	262.7	450	191,006	424.5
Prince Edward	129	60,630	470.0	108	26,136	242.0	126	37,614	298.5
Totals	5,754	2,947,341	512.2	4,343	1,327,918	305.8	5,001	2,234,133	446.7
Lennox and Addington	95	34,438	362.5	325	106,785	328.6	135	44,974	333.1
Frontenac	235	75,482	321.2	135	35,412	262.3	171	62,907	367.9
Leeds and Grenville	318	112,636	354.2	175	46,053	263.2	209	88,368	422.8
Dundas	88	41,070	466.7	61	18,300	300.0	109	45,054	413.3
Stormont	14	3,734	266.7	5	1,000	200.0	30	12,023	400.8
Glengarry	55	11,000	200.0	123	36,900	300.0	64	19,486	304.5
Prescott	115	50,600	440.0	101	28,886	286.0	65	23,682	364.3
Russell	48	8,798	183.3	28	12,133	433.3	52	15,079	290.0
Carleton	445	134,969	303.3	498	94,087	188.9	523	191,940	367.0
Renfrew	84	12,180	145.0	102	16,065	157.5	106	35,573	335.6
Lanark	113	33,098	292.9	104	19,326	185.8	144	54,550	378.8
Totals	1,610	518,005	321.7	1,657	414,947	250.4	1,608	593,636	369.2
Victoria	731	414,258	566.7	561	168,300	300.0	486	230,929	475.2
Peterborough	313	97,593	311.8	298	60,828	204.1	286	100,696	352.1
Haliburton	4	600	150.0	8	2,000	250.0	7	2,266	323.7
Hastings	437	134,072	306.8	386	79,956	207.1	271	79,057	291.7
Totals	1,485	646,523	435.4	1,253	311,084	248.3	1,050	412,948	393.3
Muskoka	38	7,600	200.0	168	36,750	218.8	53	13,142	248.0
Parry Sound	7	1,400	200.0	5	1,500	300.0	10	2,247	224.7
Algoma	27	5,400	200.0	21	4,200	200.0	23	6,779	294.7
Totals	72	14,400	200.0	194	42,450	218.8	86	22,168	257.8
The Province	21,459	10,020,659	467.0	17,924	5,695,761	317.8	17,906	7,826,216	437.1

CARROTS.

TABLE No. XXII.—Showing by County Municipalities and groups of Counties the area and produce of Carrots in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	122	24,400	200.0	100	20,300	203.0	83	21,838	263.1
Kent	168	47,561	283.1	148	31,287	211.4	141	40,853	289.7
Elgin	192	69,120	360.0	167	37,954	227.3	143	42,237	295.4
Norfolk	198	66,132	334.0	145	18,463	127.3	127	37,100	292.1
Haldimand	136	43,969	323.3	85	16,188	190.5	82	21,246	259.1
Welland	116	43,918	378.6	103	15,321	148.8	80	22,920	286.5
Totals	932	295,100	316.6	748	139,513	186.5	656	186,194	283.8
Lambton	271	90,053	332.3	167	42,346	253.6	180	53,774	298.7
Huron	510	179,979	352.9	384	107,685	280.4	511	203,836	398.9
Bruce	302	89,815	297.4	305	64,965	213.0	299	100,328	335.6
Totals	1,083	359,847	332.3	856	214,996	251.2	990	357,938	361.6
Grey	466	139,800	300.0	444	105,583	237.8	547	205,241	375.2
Simcoe	576	184,608	320.5	525	90,400	172.2	597	213,526	357.7
Totals	1,042	324,408	311.3	969	195,983	202.3	1,144	418,767	366.1
Middlesex	484	156,042	322.4	428	94,515	220.8	469	146,547	312.5
Oxford	471	186,940	396.9	248	75,824	305.7	341	140,836	413.0
Brant	222	104,162	469.2	161	40,538	251.8	214	93,087	435.0
Perth	392	135,593	345.9	410	139,728	340.8	421	170,255	404.4
Wellington	300	86,250	287.5	382	95,286	249.4	302	99,973	331.0
Waterloo	417	154,874	371.4	220	47,575	216.3	315	134,871	428.2
Dufferin	151	33,975	225.0	124	44,020	355.0	156	53,258	341.4
Totals	2,437	857,836	352.0	1,973	537,486	272.4	2,218	838,827	378.2
Lincoln	168	67,586	402.3	99	22,058	222.8	114	37,216	326.5
Wentworth	276	99,719	361.3	219	52,926	241.7	222	86.363	389.0
Halton	162	74,520	460.0	79	26,239	332.1	123	49,294	400.8
Peel	324	126,781	391.3	278	74,713	268.8	309	110,444	357.4
York	712	290,710	408.3	472	116,070	245.9	715	303,055	423.9
Ontario	470	249,711	531.3	386	106,250	275.3	523	200,229	382.8
Durham	585	202,059	345.4	446	95,194	213.4	494	181,418	367.2
Northumberland	402	129,404	321.9	169	35,248	208.6	258	85,694	332.1
Prince Edward	125	40,838	326.7	27	1,665	61.7	51	11,123	218.1
Totals	3,224	1,281,328	397.4	2,175	530,363	243.8	2,809	1,064,836	379.1
Lennox and Addington	66	20,130	305.0	78	15,990	205.0	58	15,467	266.7
Frontenac	274	58,800	214.6	148	28,332	191.4	160	40,124	250.8
Leeds and Grenville	190	58,900	310.0	160	43,859	274.1	152	47,614	313.3
Dundas	74	24,975	337.5	45	11,250	250.0	48	16,225	338.0
Stormont	86	12,900	150.0	34	3,400	100.0	39	10,068	258.2
Glengarry	62	12,400	200.0	52	14,300	275.0	41	9,922	242.0
Prescott	51	16,544	324.4	81	16,740	206.7	51	14,074	276.0
Russell	173	51,900	300.0	131	42,575	325.0	118	37,030	313.8
Carleton	534	123,407	231.1	490	87,676	178.9	527	172,940	328.2
Renfrew	90	11,250	125.0	98	17,314	176.7	108	31,918	295.5
Lanark	102	27,326	267.9	118	16,857	142.9	133	45,059	338.8
Totals	1,702	418,532	245.9	1,435	298,293	207.9	1,435	440,441	306.9
Victoria	386	166,482	431.3	336	84,981	252.9	293	106,878	364.8
Peterborough	354	100,713	284.5	269	39,782	147.9	324	97,402	300.6
Haliburton	23	5,750	250.0	27	6,750	250.0	19	5,842	307.5
Hastings	198	58,608	296.0	175	26,000	148.6	146	42,079	288.2
Totals	961	331,553	345.0	807	157,513	195.2	782	252,201	322.5
Muskoka	81	17,820	220.0	91	16,699	183.5	74	17,884	241.7
Parry Sound	24	4,560	190.0	28	9,240	330.0	25	6,893	275.7
Algoma	38	7,600	200.0	28	5,600	200.0	29	7,012	241.8
Totals	143	29,980	209.7	147	31,539	214.6	128	31,789	248.
The Province	11,524	3,898,584	338.3	9,110	2,105,686	231.1	10,162	3,590,993	353.

TURNIPS.

TABLE No. XXIII.—Showing by County Municipalities and groups of Counties the area and produce of Turnips in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average yield per acre.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.	Acres.	Bushels.	Bush. per acre.
Essex	191	38,200	200.0	146	28,591	195.8	203	59,940	295.3
Kent	293	88,867	303.3	258	61,306	237.6	345	117,860	341.6
Elgin	404	164,145	406.3	315	83,790	266.0	344	117,964	342.9
Norfolk	1,630	727,306	446.2	1,149	319,698	278.2	863	346,414	401.4
Haldimand	281	98,350	350.0	82	12,710	155.0	103	29,497	286.4
Welland	199	79.600	400.0	210	44,100	210.0	164	58,306	355.5
Totals	2,998	1,196,468	399.1	2,160	550,195	254.7	2,022	729,981	361.0
Lambton	379	154,708	408.2	227	45,400	200.0	289	97,530	337.5
Huron	6,739	2,651,123	393.4	6,583	2,193,521	333.2	6,660	2,556,483	383.9
Bruce	6,079	2,355,613	387.5	5,800	1,643,604	283.4	5,532	2,191,705	396.2
Totals	13,197	5,161,444	391.1	12,610	3,882,525	307.9	12,481	4,845,718	388.2
Grey	9,458	3,348,132	354.0	9,835	2,960,532	301.0	8,830	3,556,579	402.8
Simcoe	3,812	1,519,463	398.6	3,165	640,628	202.4	3,244	1.268,120	390.9
Totals	13,270	4,867,595	366.8	13,000	3.601,160	277.0	12,074	4.824,699	399.6
Middlesex	1,989	895,050	450.0	1,644	459,219	279.3	1,656	623,064	376.2
Oxford	6,299	3,005,253	477.1	5,105	2,129,755	417.2	5,173	2,227,713	430.6
Brant	3.513	1,795,494	511.1	2,926	999,726	341.7	2,504	1,187,809	474.4
Perth	4,162	1,763.856	423.8	4,637	1,523,023	328.5	4,742	1,813,281	382.4
Wellington	13,380	5,796,216	433.2	12,791	4,132,644	323.1	12,900	5,482,527	425.0
Waterloo	5,034	2,315,640	460.0	5,234	1,731,250	330.8	5,115	2,063,391	403.4
Dufferin	2,505	826,650	330.0	2,349	770,895	328.2	2,321	850,318	366.4
Totals	36,882	16,398,159	444.6	34,686	11,746,512	338.7	34,411	14,248,103	414.1
Lincoln	288	140,083	486.4	247	57,015	230.8	223	75,824	340.0
Wentworth	3,215	1,767,286	549.7	2,722	805,249	295.8	2,274	1,093,668	480.9
Halton	2,046	1,135,530	555.0	1,835	626,964	341.7	1,665	753,722	452.7
Peel	1,626	665.684	409.4	1,493	345,525	231.4	1,284	461,491	359.4
York	4,231	1,833,292	433.3	3,344	937,724	280.4	3,047	1,193,085	391.6
Ontario	12,721	5,973,782	469.6	12,651	3,771,010	298.1	11,411	4,408,713	386.4
Durham	5,392	2.415,616	448.0	5,148	1,450,500	281.8	5,052	2,144,715	424.5
Northumberland	3,601	1,446,522	401.7	3,493	864,518	247.5	3,022	1,112,310	468.1
Prince Edward	175	59,500	340.0	104	18,330	176.3	110	25,252	229 6
Totals	33,295	15,437,295	463.7	31,037	8,876,835	286.0	28,088	11,268,780	401.2
Lennox and Addington	97	21,127	217.8	161	35,554	220.8	165	39,253	237.9
Frontenac	557	132,733	238.3	276	53,994	195.6	374	104,614	279.7
Leeds and Grenville	337	110,368	327.5	242	62,516	258.3	230	82,464	358.5
Dundas	82	28,700	350.0	30	5,250	175.0	62	18,173	293.1
Stormont	67	13,400	200.0	47	10,575	225.0	87	20,565	236.4
Glengarry	24	9,600	400.0	81	28,350	350.0	36	12,758	354.4
Prescott	120	47,472	395.6	171	37,375	218.6	113	42,787	378 6
Russell	328	131,200	400.0	288	148,800	516.7	265	97,322	367.3
Carleton	1,614	494,045	306.1	1,264	223,311	176.7	1,376	461,521	335.4
Renfrew	608	145,920	240.0	538	102,220	190.0	577	176,269	305.5
Lanark	566	207,552	366.7	566	96,735	170.9	455	154,128	338.7
Totals	4,400	1,342,117	305.0	3,664	804,680	219.6	3.740	1,209,854	323.5
Victoria	3,905	1,776,775	455.0	3,722	1,015,287	272.8	3,165	1,182,889	373.7
Peterborough	1,564	426,816	272 9	1,284	222,363	173.2	1,093	346,877	317.4
Haliburton	329	93,535	284.3	262	62,225	237.5	314	83,143	264.8
Hastings	1,293	346,136	267.7	856	140,324	163.9	751	198,456	264.3
Totals	7,091	2,643,262	372.8	6,124	1,440,199	235.2	5,323	1,811,365	340.3
Muskoka	1,065	251,447	236.1	1,191	279,885	235.0	964	272,686	282.9
Parry Sound	505	196,950	390.0	488	118,340	242.5	593	180,930	305.1
Algoma	485	145,500	300.0	362	113,125	312.5	475	164,674	346.7
Totals	2,055	593,897	289.0	2,041	511,350	250.5	2,032	618,290	304.3
The Province	113,188	47,640.237	420.9	105,322	31,413.456	298.2	100,171	39,556,790	394.9

RATIOS OF AVERAGE PRODUCE.

TABLE No. XXIV.—Showing by County Municipalities and groups of Counties the per cent. ratios of total yields in 1888 to average of total yields for the seven years 1882-8.

Counties.	Fall Wheat.	Spring Wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buckwheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzels.	Carrots.	Turnips.
Essex	102	45	175	139	121	125	136	103	86	103	130	102	112	64
Kent	96	85	162	115	140	163	122	72	141	90	101	124	116	75
Elgin	87	29	124	130	187	161	137	89	98	86	151	160	164	139
Norfolk	86	46	122	119	131	155	144	92	55	46	106	189	178	210
Haldimand	66	84	121	151	57	146	209	124	149	44	133	248	207	308
Welland	72	18	92	135	96	141	152	107	86	51	121	210	192	137
Group	88	58	130	130	129	153	136	95	130	71	122	163	158	164
Lambton	104	27	136	139	162	162	157	74	91	79	137	200	167	159
Huron	66	11	121	123	73	119	151	43	129	75	105	105	88	104
Bruce	67	60	118	118	168	100	216	41	123	92	135	85	90	107
Group	75	31	124	125	136	114	159	57	106	82	123	116	101	107
Grey	78	57	80	114	87	91	197	70	79	81	118	73	68	94
Simcoe	86	88	120	109	95	86	188	65	102	71	129	63	86	120
Group	83	72	103	112	93	89	191	68	91	77	123	67	77	101
Middlesex	76	10	129	132	135	166	147	83	103	81	132	153	106	144
Oxford	87	14	125	124	162	152	144	60	99	76	157	149	133	135
Brant	56	3	148	108	198	127	144	87	13	35	115	131	112	151
Perth	67	11	112	134	20	139	171	40	112	86	130	144	80	97
Wellington	58	38	131	127	130	110	157	82	132	65	119	120	86	106
Waterloo	73	8	141	123	97	138	96	37	102	77	129	107	115	112
Dufferin	52	101	133	133	65	116	171	83	109	58	135	52	64	97
Group	71	38	131	128	129	133	144	74	72	72	131	138	102	115
Lincoln	40	48	130	124	31	133	164	78	142	55	147	182	182	185
Wentworth	41	34	151	123	125	148	125	118	120	59	112	120	115	162
Halton	43	84	136	120	89	117	205	83	105	38	126	178	151	151
Peel	51	81	135	131	67	134	183	134	75	36	135	175	115	104
York	62	92	140	126	89	133	162	76	88	50	169	113	96	154
Ontario	47	99	145	133	67	113	185	131	35	52	169	145	125	135
Durham	99	63	119	108	78	79	108	181	100	49	110	105	111	113
Northumberland	120	59	88	95	81	60	137	106	110	57	128	113	151	130
Prince Edward	62	54	104	98	93	125	169	151	94	33	137	161	367	236
Group	55	79	126	121	82	112	154	131	95	49	141	132	120	137
Lennox and Addington	64	35	69	76	48	62	145	69	66	50	81	77	130	54
Frontenac	36	93	84	94	63	66	132	84	61	43	119	120	147	127
Leeds and Grenville	60	81	99	113	19	87	167	70	98	56	105	127	124	134
Dundas	17	99	90	122	46	92	155	110	155	95	76	91	154	158
Stormont	30	116	84	99	45	96	119	70	127	105	94	31	128	65
Glengarry	32	102	125	88	26	68	104	97	70	113	97	56	125	75
Prescott	78	118	197	111	65	71	129	79	82	111	139	214	118	111
Russell	85	84	104	92	8	39	95	57	58	73	71	58	140	135
Carleton	27	98	132	109	49	75	144	72	73	82	100	70	71	107
Renfrew	14	78	108	81	49	76	60	62	76	53	80	34	35	83
Lanark	53	95	128	84	27	60	107	45	113	51	78	61	61	135
Group	47	90	92	100	41	71	142	69	87	71	96	87	95	111
Victoria	75	73	129	113	106	77	216	93	98	54	126	179	156	150
Peterborough	90	71	92	91	62	53	95	64	29	47	86	97	103	123
Haliburton	203	112	83	97	42	71	72	73	100	88	72	26	98	112
Hastings	91	45	76	79	56	64	152	87	150	58	89	170	139	174
Group	86	66	99	95	60	66	155	84	116	56	97	157	131	146
Muskoka	165	57	82	103	56	95	84	54	108	94	100	58	100	92
Parry Sound	....	26	46	100	29	118	93	11	70	71	63	62	66	109
Algoma	143	69	112	150	271	128	215	118	347	110	91	80	108	88
Group	136	61	80	115	77	116	120	52	136	93	88	65	94	96
The Province	74	70	118	117	71	109	142	89	115	68	118	128	109	120

RATIOS OF AVERAGE PRODUCE.

TABLE No. XXV.—Showing by County Municipalities and groups of Counties the per cent. ratios of average yields per acre in 1888 to average yields per acre for the seven years 1882-8.

Counties.	Fall Wheat.	Spring Wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buckwheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzels.	Carrots.	Turnips.
Essex	109	116	107	114	114	123	119	103	96	95	132	101	76	68
Kent	101	114	114	106	107	106	110	83	122	85	116	101	98	89
Elgin	90	113	120	116	121	128	118	98	107	85	159	120	122	118
Norfolk	86	101	112	109	108	124	123	106	133	52	124	116	114	111
Haldimand	67	125	132	124	91	131	133	96	101	46	142	123	125	122
Welland	75	104	124	117	99	127	132	106	114	49	132	126	132	113
Group	91	117	121	114	109	123	118	102	120	70	132	114	112	111
Lambton	93	109	132	117	108	123	125	82	121	76	138	131	111	121
Huron	82	106	102	99	84	102	121	81	108	71	107	90	88	102
Bruce	85	114	97	92	144	90	103	56	163	81	133	88	89	98
Group	86	113	107	101	118	99	122	76	126	75	124	98	92	101
Grey	92	115	90	88	129	81	98	92	101	74	122	80	80	88
Simcoe	94	110	86	89	86	81	129	93	73	64	126	88	90	102
Group	93	114	88	88	92	81	116	92	84	70	124	85	85	92
Middlesex	82	96	120	108	108	121	113	106	129	79	143	118	103	120
Oxford	89	96	111	105	114	122	116	77	97	79	167	100	96	111
Brant	68	96	103	103	118	123	108	111	130	42	117	125	108	108
Perth	78	81	114	109	103	113	117	73	102	84	139	112	86	111
Wellington	84	114	104	100	115	103	107	89	95	62	117	92	87	102
Waterloo	82	137	107	102	111	117	103	71	116	78	133	94	87	114
Dufferin	80	120	102	106	163	100	95	128	96	53	129	70	66	90
Group	81	112	107	105	115	113	113	97	120	72	134	107	93	107
Lincoln	46	123	113	120	99	120	128	90	124	54	145	127	123	143
Wentworth	48	106	120	113	107	121	118	120	139	62	117	106	93	114
Halton	56	133	108	104	97	112	134	63	103	41	136	148	115	123
Peel	69	130	99	103	99	111	91	85	79	40	126	123	109	114
York	90	128	109	108	120	112	110	103	88	53	162	99	96	111
Ontario	102	122	107	109	107	102	130	108	97	53	147	144	139	122
Durham	104	115	91	96	103	83	87	111	102	53	111	97	94	106
Northumberland	102	96	76	83	91	59	99	89	110	58	119	104	97	109
Prince Edward	113	109	94	102	98	84	136	130	97	37	138	157	150	148
Group	70	120	100	105	98	99	119	111	104	51	136	115	105	116
Lennox and Addington	79	85	76	73	78	65	109	89	126	43	98	109	114	92
Frontenac	90	101	79	83	84	82	105	99	75	41	113	87	86	85
Leeds and Grenville	106	107	102	98	79	87	113	73	105	54	103	84	99	91
Dundas	133	119	111	106	70	101	98	103	85	88	75	113	100	119
Stormont	152	115	99	100	95	118	110	89	77	95	98	67	58	85
Glengarry	168	106	102	84	86	95	94	81	89	96	110	66	83	113
Prescott	121	120	121	106	109	140	129	110	81	94	152	121	118	104
Russell	117	113	83	90	153	81	91	96	115	76	86	63	96	109
Carleton	132	124	106	90	95	82	91	81	80	76	98	83	70	91
Renfrew	100	87	72	68	76	82	56	75	79	47	85	43	42	79
Lanark	110	99	89	74	63	61	85	71	110	49	84	77	79	108
Group	105	106	90	89	79	84	107	83	88	65	99	87	80	94
Victoria	113	105	100	93	119	80	123	97	130	57	105	119	118	122
Peterborough	92	86	84	79	96	56	84	99	82	47	79	89	95	86
Haliburton	116	125	89	76	91	74	104	104	109	78	80	46	81	107
Hastings	102	78	74	75	86	64	114	93	96	56	96	105	103	101
Group	101	93	87	83	91	67	115	95	105	55	94	111	107	110
Muskoka	96	97	99	85	81	91	78	59	67	83	93	81	91	83
Parry Sound	...	71	67	82	72	110	88	84	91	66	56	89	69	128
Algoma	70	97	111	106	95	97	105	84	99	96	85	68	83	87
Group	74	97	96	91	81	98	93	66	79	84	80	78	84	95
The Province	84	112	100	99	94	99	116	96	112	66	119	107	96	107

ACREAGE UNDER CROP.

TABLE No. XXVI.—Showing by County Municipalities and groups of Counties the total area under crop (including Wheat, Barley, Oats, Rye, Pease, Corn, Buckwheat, Beans, Potatoes, Mangels, Carrots, Turnips and Hay and Clover) in Ontario in the years 1882-8, with the yearly average for the period.

Counties.	Acres under crop.							
	1888.	1887.	1886.	1885.	1884.	1883.	1882.	Average. 1882-8.
Essex	152,211	141,731	142,539	142,489	139,909	133,467	125,235	139,654
Kent..........	220,170	209,760	213,327	214,348	203,471	203,778	173,351	205,458
Elgin	172,972	170,316	163,126	164,044	158,221	167,957	163,117	165,679
Norfolk	157,981	158,987	149,639	150,016	151,136	159,717	145,072	153,221
Haldimand.....	143,110	140,657	144,177	138,240	137,315	143,981	135,399	140,411
Welland	112,042	110,625	107,818	110,258	109,451	109,937	109,608	109,963
Totals......	958,486	932,076	920,626	919,395	899,503	918,837	851,782	914,386
Lambton	181,074	169,383	168,404	170,240	171,253	159,725	152,787	167,552
Huron	332,310	333.226	328,396	327,741	320,819	349,297	306,927	328,388
Bruce	287,834	279,224	275,320	264,737	251,250	281,104	250,859	270,047
Totals......	801,218	781,833	772,120	762,718	743,322	790,126	710,573	765,987
Grey	365,428	350,404	350,694	350,267	340,838	368,928	353,270	354,261
Simcoe	324,815	305,780	296,462	296,446	291,006	300,804	283,794	299,873
Totals......	690,243	656,184	647,156	646,713	631,844	669,732	637,064	654,134
Middlesex......	315,042	294,600	298.447	305,922	285,139	309,525	307,698	302,339
Oxford	221,770	217,219	210,386	215,493	208,492	223,829	210,651	215,406
Brant	120.242	123,499	118,973	118,694	117,442	124,662	120,649	120,594
Perth	231,622	233,441	227,250	231,255	229,397	245.449	221,700	231,445
Wellington	303,399	299,848	289,422	289,973	281,689	295,770	277,936	291,148
Waterloo	167,647	162,251	162,489	163,017	157,933	169,354	159,544	163,176
Dufferin........	129,541	124,518	119,102	123,393	116,059	123,174	116,495	121,755
Totals......	1,489,263	1,455,376	1,426,069	1,447,747	1,396,151	1,491,763	1,414,673	1,445,863
Lincoln	100,890	102,570	102,793	100,938	103,746	105,206	96,175	101,760
Wentworth.....	143,818	144,974	143,029	139,371	140,809	147,147	141,255	142,915
Halton.........	104,948	106,601	105,898	105,984	105,512	111,294	105,162	106,485
Peel	168,759	160,720	157,939	157,563	155,536	161,615	152,674	159,258
York...........	307,019	302,072	291,799	296,885	287,868	295,127	296,330	296,729
Ontario	256,140	244,909	241,869	236,760	234,996	247,930	241,114	243,388
Durham........	201,293	198,462	203,971	199,060	205,747	212,057	204,779	203,624
Northumberland	219,481	219,217	217,006	212,299	215,769	226,222	198,339	215,476
Prince Edward.	132,967	130,456	133,203	128,686	127,538	133,993	120,278	129,589
Totals......	1,635,315	1,609,981	1,597,507	1,577,546	1,577,521	1,640,591	1,556,106	1,599.224
Lennox & Add'n	135,382	141,308	142,074	136,608	134,693	141,257	141,610	138,990
Frontenac......	143,075	130,820	136,155	138,324	136,316	142,096	149,848	139,519
Leeds & Gren ..	237,859	232,218	241,882	226,582	229,244	239,339	229,283	233,773
Dundas	89,077	82,917	85,531	86,351	81,367	87,955	80,069	84.752
Stormont......	73,149	71,549	72,935	71,875	71,596	68,837	73,702	71,949
Glengarry	91,431	85,813	85,671	85,337	81,262	82,925	88,951	85,913
Prescott........	85,393	87,002	84,285	85,516	79,367	82,520	74,791	82,696
Russell.	45,240	50,772	49,947	51,702	54,020	53,865	37,828	49,054
Carleton	189,821	180,192	185,333	176,762	176,350	173,569	180,410	180,348
Renfrew	168,348	163,689	163,814	161,375	158,497	165,129	142,634	160,498
Lanark	143,727	145,042	148,463	147,594	138.210	138,625	135,284	142,421
Totals......	1,402,502	1,371,322	1,396,090	1,368,026	1,340,922	1,376,117	1,334,410	1,369,913
Victoria........	174,676	174,256	172,710	171,278	164,639	172,418	167,791	171,110
Peterborough...	139,084	138,392	144,273	148,936	135,933	139,325	130,298	139,463
Haliburton	21,516	19,634	19,869	18,798	17,452	19,013	19,922	19,458
Hastings	215,826	207,178	225,397	206,168	216,756	237,707	238,875	221,129
Totals......	551,102	539,460	562,249	545,180	534,780	568,463	556,886	551,160
Muskoka	40,441	49,805	39,849	37,223	35,850	36,610	25,238	36,574
Parry Sound....	18,772	15,687	17,094	21,375	21.571	23,330	12,913	18,677
Algoma	29,008	26,360	24,521	24,520	22,494	27,054	25,578	25,648
Totals......	88,221	82,852	81,464	83,118	79,915	86,994	63,729	80,899
The Province...	7,616,350	7,429,084	7,403,281	7,350,443	7,203,958	7,542,623	7,125,223	7,381,566

RATIOS OF AREAS UNDER CROPS.

TABLE XXVII.—Showing by County Municipalities and groups of Counties the number of acres under the various crops in Ontario in 1888 per 1,000 acres of cleared land.

Counties.	Fall Wheat.	Spring Wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buckwheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzels.	Carrots.	Turnips.	Total.
Essex........ ..	154.2	3.3	21.3	179.1	4.3	20.0	181.4	3.0	2.1	196.0	14.4	1.0	.6	1.0	781.7
Kent...........	205.6	7.3	30.9	122.9	2.9	53.7	102.3	2.5	46.8	188.7	10·5	1.2	.6	1.0	776.9
Elgin..........	160.9	1.8	16.9	132.8	7.3	55.0	63.5	4.2	3.5	181.3	10.7	1.3	.7	1.5	641.4
Norfolk.........	146.6	1.8	29.7	127.0	39.2	77.9	73.6	18.1	1.1	158.2	13.2	1.4	.9	7.2	695.9
Haldimand	164.5	9.8	67.1	134 6	2.8	72.7	14.6	4.8	1.0	237.8	7.2	1.5	.7	1.4	720.5
Welland.... ...	137.7	1.8	18.1	136.7	4.0	27.3	45.0	10.9	3.1	293.8	13.9	1.5	.7	1.2	695.7
Group......	164.7	4.4	30.3	137.2	10.3	52.8	81.2	6 9	11.7	203.1	11.5	1.3	.7	2.2	718.3
Lambton	137.5	6.1	53 0	160.8	1.1	41.9	32.1	1.3	.9	191.7	10.7	2.0	1.0	1.3	641.4
Huron	103.9	3.8	58.9	172.0	.4	67.0	3.6	.3	.3	182.4	9.4	3.1	.9	12.5	618.5
Bruce	89.6	17.0	53.0	166.7	1.0	91.5	2.3	.5	.2	207.7	11.1	.9	.7	13.9	656.1
Group......	106.5	8.9	55.5	167.6	.8	69.9	9.5	.6	.4	193.3	10.3	2.1	.8	10.5	636.7
Grey	43.4	40.3	39.1	198.9	.7	92.3	1.5	.5	.1	224.1	12.5	.6	.8	17.4	672.2
Simcoe	106.5	60.7	90.1	160.8	5.3	71.0	2.4	.5	.3	175.9	14.8	1.0	1.2	8.2	698.7
Group	72.5	49.7	62.6	181.3	2.8	82.5	1.9	.5	.2	201.9	13.6	.8	1.0	13.1	684.4
Middlesex	132.0	2.5	30.6	163.4	1.1	54.9	26.5	.8	.5	172.5	10.0	3.2	.9	3.8	602.7
Oxford	114.9	4.4	56.5	178.5	4.9	54.2	31.0	1.4	.7	173.7	9.3	5.0	1.4	18.6	654.5
Brant..........	151.2	0.3	151.3	109.8	9.4	52.9	37.0	3.2	.3	159.0	13.1	2.1	1.3	20.8	711.7
Perth..........	111.9	5.3	48.7	186.0	.1	76.0	2.8	.2	.2	190.1	10.1	5.3	1.1	11 7	649.5
Wellington	44.6	16.4	101.4	195.9	2.1	91.1	1.8	.3	.1	196.5	13.9	2.6	.7	30.8	698.2
Waterloo	156.3	1.5	91.0	177 4	2.0	70.9	5.2	.2	.1	182.5	12.4	2.2	1.8	21.8	725.3
Dufferin........	40.8	94.8	83.2	192.0	1.8	71.6	.7	.4	.1	193.8	17.8	.5	.8	13.8	712.1
Group	105.8	13.2	70.8	175.3	2.5	68.1	15.0	.8	.3	181.9	11 8	3.3	1.1	16.5	666.4
Lincoln	128.4	5.9	32.6	121.6	1.0	33.7	53.7	3.9	1.2	276.9	13.5	2.3	1.1	1.9	677.7
Wentworth	133.0	4.1	76.0	148.5	5.4	60.4	22.7	3.3	.5	208.3	16.5	2.3	1.4	15.6	698.0
Halton	104.3	13.2	99.2	126.9	2.8	65.0	9.9	1.3	.3	188.3	9.4	3.0	1.0	12.4	637.0
Peel	83.0	32.8	193.4	147.4	4.0	66.0	3.7	1.6	.2	147.1	12.8	2.5	1.4	6.8	702.7
York	64.9	46.3	176.9	172.4	3.3	78.3	4.7	.5	.3	167.2	19.2	4.8	1.7	10.4	750.9
Ontario	14.0	113.1	154.7	171.6	5.5	86.3	10.5	1.4	.3	151.8	13.9	2.3	1.4	37.9	764.7
Durham	11.1	73.6	217.0	130.2	13.6	72.9	7.9	6.3	1.1	142 1	11.0	1.7	2.1	19.0	709.6
Northumberland	38.4	56.8	171.2	106.3	32.2	67.2	16.8	19.6	1.6	166.7	14.8	1.6	1.3	11.6	706.1
Prince Edward	6.3	18.9	245.4	70.5	47.3	97.3	39.2	41.6	2.5	142.3	13.3	.7	.7	1.0	727.0
Group	57.5	48.5	160.9	138.5	12.5	72.0	15.5	7.9	.8	170.0	14.3	2.5	1.4	14.6	716.9
Lennox & Add'n	8.0	13.1	184.3	111.7	16.1	40.9	14.6	10.2	.4	259.2	13.6	.5	.3	.5	673.4
Frontenac	3.5	37.7	92.4	142.7	13.3	43.1	9.9	6.2	1.2	301.6	20.0	1.1	1.3	2.6	676.6
Leeds & Gren ..	7.3	24.8	26.2	175.9	4.2	15.5	18.4	12 2	.8	271.7	17.9	.8	.5	.8	577.0
Dundas	1.2	29.6	42.3	249.7	7.4	12.0	18.5	11.7	3.2	273.9	18.8	.7	.6	.6	670.2
Stormont	1.3	39.2	17.1	208.3	2.1	18.9	11.6	13.9	2.3	297.1	17.1	.1	.7	.6	630.3
Glengarry	.9	53.7	18.6	221.4	.1	31.4	5.5	8.2	.5	287.3	15.5	.4	.4	.2	644.1
Prescott........	.4	61.6	32.1	205.3	1.3	37.4	10.2	8.6	3.9	278.5	17.0	.9	.4	.9	658.5
Russell	2.2	41.3	23.3	242.1	.2	25.3	5.6	7.5	1.4	226.9	16.6	.6	2.3	4.4	599.7
Carleton........	1.2	62.7	34.4	256.9	12.1	44.0	7.1	12.5	1.5	224.4	22.2	1.6	1.9	5.9	688.4
Renfrew	.6	83.3	7.9	178.6	16.6	73.4	1.8	3.6	1.7	264.1	13.6	.3	.3	2.3	648.1
Lanark	5.3	47 2	13.3	140.6	7.3	38.1	5.5	12.8	.7	211.1	11.5	.4	.4	2.0	496.2
Group......	3.6	44.8	44.1	185.6	8.4	36.0	10.2	10.0	1.4	260.2	16.7	.7	.8	2.0	624.5
Victoria	25.4	94.5	164.4	189.6	4.3	64.1	3.7	1.6	.3	146.6	15.2	3.1	1.6	16.3	730.7
Peterborough ..	45.4	97.6	70.5	154.1	9.6	66.0	1.8	2.1	.2	175.8	13.1	1.5	1.6	7.3	646.6
Haliburton	6.3	41.5	9.2	218.0	4.4	52.6	2.8	5.9	.9	391.8	22.1	.1	.8	11.7	768.1
Hastings	21.1	27.2	120.2	124.7	27.5	52.1	20.7	9.9	1.3	200.4	15.8	1.3	.6	3.8	626.6
Group	28.2	65.4	116.3	154.3	15.4	59.1	10.3	5.4	.7	184.9	15.1	1.8	1.2	8.6	666.7
Muskoka	2.1	16.6	8.6	194.7	5.3	52.8	4.2	5.0	1.2	435.9	27.4	.7	1.6	20.5	776.6
Parry Sound ...	......	18.6	15.6	180.9	5.1	47.0	1.2	.4	.3	319.2	26.9	.2	.8	17.1	633.3
Algoma	21.8	124.4	15.7	154.0	13.0	126.8	3.8	2.1	1.0	303.4	20.5	.7	1.1	13.4	801.7
Group......	7.6	50.2	12.6	178.7	7.6	74.0	3.4	3.0	.9	365.9	25.2	.6	1.2	17.4	748.3
The Province...	73.2	32.5	79.2	163.6	7.4	61.6	19.7	5.1	2.0	202.8	13.6	1.9	1.0	10.0	673.6

RATIOS OF AREAS UNDER CROP.

TABLE No. XXVIII.—Showing by County Municipalities and groups of Counties the average number of acres under various crops per 1,000 acres of cleared land in Ontario for the seven years 1882-8.

Counties.	Fall wheat.	Spring wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buckwheat.	Beans.	Hay and Clover.	Potatoes.	Mangel-wurzels.	Carrots.	Turnips.	Totals.
Essex	179.7	9.1	14.2	160.1	4.4	21.6	170.8	3.5	2.4	196.9	15.9	1.1	.4	1.1	781.2
Kent	226.8	10.2	22.8	119.3	2.3	36.7	96.8	3.2	42.5	187.0	12.8	1.0	.5	1.3	763.2
Elgin	174.7	7.4	17.2	124 7	5.0	46.3	58.4	5.0	4.2	189.6	11.4	1.1	.6	1.4	647.0
Norfolk	150.3	4.0	27.8	119.8	33.2	64.4	65.8	21.9	3.7	181.4	16.0	.9	.6	3.9	693.7
Haldimand	170.7	15.0	75.3	113.3	4.6	66.8	10.6	4.0	.8	253.6	7.9	.8	.4	.5	724.3
Welland	147.6	10.8	25.3	122.6	4.3	25.5	42.6	11.3	4.9	293.6	15.7	.9	.5	1.0	706.6
Group	178.3	9.2	29.6	125.7	9.1	44.5	74.4	7.9	11.5	211.1	13.1	1.0	.5	1.6	717.5
Lambton	140.2	27.6	58.3	153.7	.9	36 2	30.0	1.6	1.4	209.6	12.2	1.5	.7	1.2	675.1
Huron	136.7	38.4	52.2	145.3	.5	60.5	3.4	.5	.2	180.6	10.1	2.8	1.0	13.1	645.3
Bruce	123.3	34.9	47.0	141.2	1.0	89.7	1.3	.8	.3	198.2	11.9	1.0	.7	13.6	664.9
Group	132.8	34.9	51.7	145.6	.8	65.5	8.3	.8	.5	192.9	11.2	1.9	.9	10.7	658.5
Grey	53.0	83.4	45.2	158 5	1.0	85.2	.8	.6	.2	213.6	13.2	.7	1.0	16.8	673.2
Simcoe	124.0	80.9	69.1	140.0	5.2	70.9	1.8	.7	.3	168.9	15.5	1.5	1.4	7.4	687.6
Group	85.2	82.3	56.1	150.1	2.9	78.7	1.2	.7	.2	193.4	14.3	1.0	1.2	12.5	679.8
Middlesex	150.4	25.3	30.0	140.3	.9	41.9	22.2	1.1	.7	176.2	11.5	2.6	.9	3.3	607.3
Oxford	119.5	31.9	50.8	154.1	3.5	44.4	26.8	2.0	.8	185.3	10.1	3.5	1.0	15.6	649.3
Brant	184.6	7.9	105.8	106.2	5.7	51.7	29.2	4.1	3.5	190.1	13.3	2.1	1.3	15.0	720.5
Perth	134.2	40.3	50.9	155.8	.6	63.8	2.2	.3	.2	191.0	11.1	4.2	1.2	13.7	669.5
Wellington	66.9	51.8	83.7	161.0	2.0	87.9	1.4	.3	.1	194.3	14.2	2.1	.7	30.9	697.3
Waterloo	175.9	25.0	69.4	148.6	2.4	60.3	6.2	.4	.2	184.6	12.8	2.0	1.4	22.3	711.5
Dufferin	66.2	118.4	67.4	160.8	4.7	65.4	.5	.6	.1	188.7	17.9	.7	.9	13.5	705.8
Group	125.6	39.9	59.9	148.8	2.3	59.3	12.8	1.1	.6	186.4	12.5	2.6	1.0	15.9	668.7
Lincoln	150.9	15.4	29.0	119.9	3.1	31.0	44.1	5.1	1.1	279.2	13.5	1.6	.8	1.5	696.2
Wentworth	155.2	12.9	60.6	137.0	4.6	49.6	22.6	3.6	.6	218.5	17.4	2.1	1.1	11.1	696.9
Halton	134.5	20.9	78.1	109.5	3.0	61.8	6.7	1.1	.3	203.4	9.9	2.5	.7	10.0	642.4
Peel	118.6	55.1	149.4	121.8	6.2	57.5	2.0	1.1	.3	164.1	12.6	1.9	1.4	5.6	697.6
York	94.7	65.3	140.2	150.6	4.5	67.4	3.4	.7	.4	177.4	18.8	4.2	1.8	7.6	737.0
Ontario	31.2	143.9	116.5	143.9	8.9	80.2	7.8	1.2	1.0	158.1	12.4	2.3	1.6	34.9	743.9
Durham	12.2	140.8	172.3	120.9	18.9	79.6	7.1	3.9	1.3	159.2	11.7	1.6	1.8	18.6	749.9
Northumberland	33.4	94.8	151.7	96.4	37 6	67.1	13.1	16.4	1.7	173.0	14.1	1.5	.8	10.0	711.6
Prince Edward	12.1	39.1	232.0	76.2	51.7	67.9	36.4	35.8	2.6	165.5	13.8	.7	.3	.6	734.7
Group	75.1	75.5	131.2	123.4	15.1	65.3	13.0	6.7	1.0	181.9	14.2	2.2	1.3	12 6	718.5
Lennox & Add'n	10.1	32.1	205.6	109.3	26.6	43.8	11.7	13.4	.8	228.7	16.7	.7	.3	.8	700.6
Frontenac	9.4	43.0	91.3	132.0	18.9	55.8	8.2	7.7	1.5	302.1	19.9	.8	.8	1.9	693.3
Leeds & Gren.	13.5	34.0	27.9	159.6	17.3	16.1	13.0	13.7	.9	273.5	18.3	.5	.4	.6	589.3
Dundas	9 5	36.7	53.6	223.7	11.6	13.6	12.0	11.2	1.8	262.0	19.0	.8	.4	.5	656.4
Stormont	6.7	40.5	21.0	218.5	4.5	24.3	11.2	19.3	1.3	279.2	18.7	.3	.3	.8	646.6
Glengarry	5.0	58.5	15.9	220.6	.4	45.5	5.4	7.8	.8	254.2	18.3	.5	.3	.3	633.5
Prescott	.7	67.8	21.4	212.3	2.4	79.4	11.1	13.8	4.3	253.3	20.1	.5	.4	.9	688.4
Russell	3.2	58.0	19.4	247.6	3.2	54.9	5.9	13.3	3.1	243.9	21.0	.7	1.6	3.7	679.5
Carleton	6.4	83.2	29.4	223.3	24.8	50.8	4.7	14.6	1.7	220.7	22.9	2.0	2.0	5.3	691.8
Renfrew	4.5	103.4	5.8	166.3	28.3	87.3	2.0	5.0	1.9	258.9	16.0	.4	.5	2.5	682 8
Lanark	11.4	51.8	9.7	128.7	18.1	41.1	4.8	21.6	.8	212.7	13.1	.5	.5	1.6	516.4
Group	8.5	55.4	45.5	173.6	17.1	44.7	8.2	13.0	1.5	252.4	18.2	.8	.7	1.7	641.3
Victoria	39.3	141.5	132.5	161.4	5.0	69.3	2.2	1.7	.4	161.2	13.1	2.1	1.3	13.8	744.8
Peterborough	47.9	123.0	66.4	137.9	15.6	72.0	1.7	3.3	.6	180.7	12.4	1.4	1.5	5.2	669.6
Haliburton	3.9	50 5	10.8	186.7	10.3	59.8	4.6	9.3	.9	381.3	26.6	.3	.7	12.2	757.9
Hastings	25.4	50.4	126.2	127.4	45.7	55.8	17.7	12.0	.9	204.9	18.2	.8	.5	2.3	688.2
Group	34.7	96.4	108.4	142.1	24.6	64.2	8.5	6.6	.7	191.4	15.4	1.3	1.0	6.8	702.1
Muskoka	1.4	31.7	11.7	179.5	8.7	57.3	4.7	6.4	.9	436.2	28.6	1.1	1.6	20.8	790.6
Parry Sound	1.4	62.2	27.3	178.1	15.0	52.5	1.7	5.0	.5	359.6	28.4	.4	1.0	24.0	757.1
Algoma	12.8	208.4	18.6	129.9	5.5	113.8	2.3	2.1	.3	312.0	22.6	.8	.9	15.7	845.7
Group	4.8	92.0	17.6	164.3	9.3	73.0	3.3	4.8	.6	380.3	26.7	.9	1.3	20.1	799.0
The Province	87.7	54.5	70.1	145.2	10.2	58.8	17.3	5.8	2.1	204.9	14.4	1.6	.9	9.3	682.8

PASTURE.

TABLE No. XXIX.—Showing by County Municipalities and groups of Counties the area of Pasture in Ontario in the five years 1884-8; also the rate per 1,000 acres cleared in the year 1888.

Counties.	1888.	1887.	1886.	1885.	1884.	No. of acres per 1,000 cleared in 1888.
Essex	27,563	27,584	64,251	62,457	46,864	141.6
Kent	45,405	48,229	89,037	89,292	69,097	160.2
Elgin	66,137	65,609	79,679	74,624	77,510	245.2
Norfolk	41,573	38,178	47,308	50,528	44,788	183.1
Haldimand	33,725	37,512	43,950	39,206	40,372	169.8
Welland	24,927	23,474	33,681	32,216	31,065	154.8
Totals	239,330	240,586	357,906	348,323	309,696	179.3
Lambton	63,157	62,980	95,926	88,689	90,831	223.7
Huron	141,642	135,339	152,711	140,784	141,278	263.6
Bruce	103,080	97,997	107,344	98,469	95,992	235.0
Totals	307,879	296,316	355,981	327,942	328,101	244.7
Grey	134,037	130,069	145,408	138.009	133,244	246.6
Simcoe	79,888	74,834	84,680	76,948	79,200	171.9
Totals	213,925	204,903	230,088	214,957	212,444	212.1
Middlesex	159,160	165,443	201,599	182,945	178,001	304.5
Oxford	85,081	85,497	104,404	103,255	104,277	251.1
Brant	27,981	27,827	34,683	34,402	33,736	165.6
Perth	80,827	79,952	92,925	89,555	86,036	226.7
Wellington	84,903	84,499	100,363	93,601	91,679	195.4
Waterloo	32,460	36,013	36,393	37,477	36,702	140.4
Dufferin	34,428	33,118	37.539	34,960	40,402	189.2
Totals	504,840	512,349	607,906	576,195	570,833	225.9
Lincoln	27,325	25,764	31,583	30,464	28,630	183.5
Wentworth	38,521	35,678	47,835	43,905	44,379	187.0
Halton	38,012	38,980	39,353	39,215	38,601	230.7
Peel	37,307	36,940	40,323	35,993	34,667	155.4
York	60,211	59,777	70,292	68,306	71,460	147.3
Ontario	57,188	61,746	69,971	68,628	67,936	170.7
Durham	50,062	46,827	53,979	55,059	53,913	176.5
Northumberland	60,775	64,257	72,179	70,475	62,609	195.5
Prince Edward	37,219	34,924	40,072	41,021	35,816	203.5
Totals	406,620	404,893	465,587	453,066	438,011	178.3
Lennox and Addington	48,017	51,121	65,471	67,812	63,711	238.9
Frontenac	52,589	55,039	71,217	74,306	61,898	248.7
Leeds and Grenville	151,590	142,604	174,549	168.109	154,231	367.7
Dundas	38,042	38,930	47,695	43,824	41,960	286.2
Stormont	38,028	36,033	42,724	39.609	39,276	327.7
Glengarry	39,978	44,873	48,086	46,675	48,167	281.6
Prescott	34,438	32,942	46,093	42,499	37,627	265.6
Russell	24,766	19,481	23,477	22,793	22,507	328.3
Carleton	69,207	75,490	90,008	82,294	87,307	251.0
Renfrew	67,273	59,946	72,794	69,711	62,423	259.0
Lanark	101,211	110,575	108,900	107,631	105,237	349.4
Totals	665,139	667,034	791,014	765,263	724,344	296.2
Victoria	38,258	40,763	47,718	49,735	47,941	160.0
Peterborough	51,935	50,567	52,550	55,785	46,477	241.5
Haliburton	4,974	5,112	7,060	5,494	5,022	177.6
Hastings	84,656	90,408	93,640	97,240	95,636	245.8
Totals	179,823	186,850	200,968	208,254	195,076	217.5
Muskoka	9,108	8,324	9,187	9,344	8,456	174.9
Parry Sound	4,336	4,042	3,064	3,869	4,332	146.3
Algoma	4,604	3,642	4,620	3,986	3,693	127.2
Totals	18,048	16,008	16,871	17.199	16,481	153.1
The Province	2,535,604	2,528.939	3,026,321	2,911,199	2,794,986	224.2

NOTE.—Previous to 1887 a portion of "bush" pasture was included. Returns of pasture land in 1887 and 1888 include cleared lands only.

ORCHARD AND GARDEN.

TABLE No. XXX.—Showing by County Municipalities and groups of Counties the area in Orchard and Garden in Ontario as taken from the assessors' rolls in the seven years 1882-8, with the annual average for the period; also, the rate per 1,000 acres cleared in 1888 and the average for the period 1882-8.

Counties.	1888.	1887.	1886.	1885.	1884.	1883.	1882.	1882-8.	No. of acres per 1,000 cleared.	
									1888.	1882-8
	acres.	acres.	acres.	acres.	acres.	acres.	acres.	acres.		
Essex	5,914	5,723	5,768	6,015	5,814	6,081	6,399	5,959	30.4	33.3
Kent	7,004	6,695	7,305	7,615	8,117	7,432	7,849	7,431	24.7	27.6
Elgin	6,856	6,572	6,696	6,881	6,951	7,360	7,640	6,994	25.4	27.3
Norfolk	7,256	6,826	7,470	8,024	7,909	7,935	8,770	7,741	32.0	35.0
Haldimand	4,222	4,150	4,541	4,528	4,755	4,995	4,891	4,583	21.3	23.6
Welland	6,763	7,101	7,248	6,781	6,406	6,281	7,151	6,819	42.0	43.8
Totals	38,015	37,067	39,028	39,844	39,952	40,084	42,700	39,527	28.5	31.8
Lambton	6,506	6,386	5,961	5,596	5,896	6,031	6,490	6,124	23.0	24.7
Huron	8,092	8,468	8,539	8,478	8,624	7,849	8,775	8,403	15.1	16.5
Bruce	5,744	5,020	5,446	5,851	5,432	6,027	6,213	5,676	13.1	14.0
Totals	20,342	19,874	19,946	19,925	19,952	19,907	21,478	20,203	16.2	17.4
Grey	7,297	6,778	6,719	7,105	7,160	7,347	8,262	7,238	13.4	13.8
Simcoe	4,323	4,351	4,378	4,450	4,417	4,881	6,085	4,698	9.3	10.8
Totals	11,620	11,129	11,097	11,555	11,577	12,228	14,347	11,936	11.5	12.4
Middlesex	9,800	9,309	10,100	11,000	10,966	10,534	12,242	10,564	18.8	21.2
Oxford	7,782	8,432	8,208	8,666	8,728	8,795	9,142	8,536	23.0	25.7
Brant	4,004	4,334	4,488	4,651	4,750	5,260	5,213	4,671	23.7	27.9
Perth	4,250	4,553	4,410	4.626	4,964	5,668	5,643	4,874	11.9	14.1
Wellington	4,350	4,406	4,643	4,772	5,181	5,136	5,790	4,897	10.0	11.7
Waterloo	5,030	4,958	5,221	5,295	5,450	5,693	5,191	5,263	21.8	22.9
Dufferin	1,308	1,410	1,234	1,583	1,589	1,714	1,766	1,515	7.2	8.8
Totals	36,524	37,402	38,304	40,593	41,628	42,800	44,987	40,320	16.3	18.6
Lincoln	7,333	7,863	8,059	8,075	8,057	7,808	7,878	7,867	49.3	53.8
Wentworth	9,291	8,922	9,197	9,324	9 340	9,529	8.134	9,105	45.1	44.4
Halton	4,677	4,551	4,603	4,991	4,721	4,829	5,332	4,815	28.4	29.0
Peel	4,491	3,786	4,452	4,128	4,000	4,001	4,556	4,202	18.7	18.4
York	7,379	6,836	8,128	7,744	7,394	9,239	8,881	7.943	18.0	19.7
Ontario	4,953	5,351	5,298	5,330	5,457	5,492	5,734	5,374	14.8	16.4
Durham	3,503	3,929	3,897	3,825	3,908	3,926	4,898	3,984	12.3	14.7
Northumberland	6,511	6,478	6,485	6,683	6,405	6,757	6,203	6,503	20.9	21.5
Prince Edward	5,743	6,364	6,503	6,696	5,830	5,777	6,943	6,265	31.4	35.5
Totals	53,881	54,080	56,622	56,796	55,112	57,358	58,559	56,058	23.6	25.2
Lennox & Add'on.	2,704	2,840	2,448	2,671	2,767	2,810	3,535	2,825	13.5	14.2
Frontenac	1,884	2,211	2,170	1,966	2,164	2,343	3,148	2,269	8.9	11.3
Leeds & Grenville.	2,624	2,968	3,121	3,062	3,210	3,410	4,412	3,258	6.4	8.2
Dundas	962	1,074	1,170	1,262	1,338	1,313	1,212	1,190	7.2	9.2
Stormont	926	888	930	920	1,029	1,216	1,400	1,044	8.0	9.4
Glengarry	316	460	470	525	634	704	983	584	2.2	4.3
Prescott	227	271	220	166	222	149	576	262	1.8	2.2
Russell	191	127	121	164	113	114	322	165	2.5	2.3
Carleton	555	319	431	470	593	467	1,391	604	2.0	2.3
Renfrew	365	269	283	842	1,043	897	738	634	1.4	2.7
Lanark	979	974	1,011	1,097	1,207	1,337	1,311	1,131	3.4	4.1
Totals	11,733	12,401	12,375	13,145	14,320	14,760	19,028	13,966	5.2	6.5
Victoria	1,266	1,423	1,729	1,818	2,299	2,022	2,279	1,834	5.3	8.0
Peterborough	1,889	1,829	1,861	1,969	1,954	2,025	2,352	1,983	8.8	9.5
Haliburton	95	61	176	37	62	78	190	100	3.4	3.9
Hastings	4,589	5,598	4,869	5,014	5,465	5.825	7,464	5,546	13.3	17.3
Totals	7,839	8,911	8,635	8,838	9,780	9,950	12,285	9,463	9.5	12.1
Muskoka	403	316	393	349	398	265	99	349	7.7	7.5
Parry Sound	4	7	....	56	48	50	317	30	.1	1.2
Algoma	196	255	216	165	70	48	46	150	5.4	4.9
Totals	603	578	609	570	516	363	462	529	5.1	5.2
The Province	180,557	181,442	186,616	191,266	192,837	197,450	213,846	192,002	16.0	17.8

PART II.

LIVE STOCK, THE DAIRY AND THE APIARY.

LIVE STOCK.

The condition of live stock in the spring varied considerably, according as the supply of fodder had been deficient or plentiful. There was a great scarcity of feed in very many districts owing to the backwardness of the season. As a result, all kinds of live stock, more especially cattle, were reported as unusually thin, though generally healthy. Where they had been well cared for they were in fine condition. The principal disease noted was horse distemper, which prevailed in many localities and caused numerous deaths; epizootic and strangles also affected horses in some sections. Where disease was absent horses were in better condition than cattle. A good many deaths among young pigs occurred, and the cold, late season was also unfavorable, though in a less noticeable degree, to the young of other animals. Sheep generally wintered well and ewes were prolific. A few cases of lung and head disease in sheep were mentioned.

In the Lake Erie group, more particularly in the counties of Essex, Kent and Elgin, and in a few of the West Midland counties, the condition of pastures at midsummer were most encouraging, but in the Lake Huron and Georgian Bay groups and in the eastern Ontario counties the unpleasant experience of last year was repeated. From Peel eastward correspondents reported brown pastures, and in many instances hand-feeding of stock. Warned by the drouth of the previous summer a number of farmers sowed corn, oats and millet for green feed, and thus supplemented what the stock could pick up in the rather uninviting pastures; others less prudent, actually started to feed cattle from the year's scant supply of hay—a fact which carries its own comment. Even in the more favored counties correspondents insisted upon the need of close economy in order to carry the stock in good form through the winter. In these counties there was a surplus of dairy produce, as the flow of milk had been kept up, but in the eastern counties and the two northern groups of the west the yield of milk began to fall off about the middle of July. It was generally remarked, however, that notwithstanding the poor appearance of the pastures all classes of stock appeared to be in really good condition.

Fall pastures were not in good condition, although much better than was expected when the August bulletin was issued. The great drouth of the early part of the summer left the fields very unpromising after cutting, but copious rains early in the fall revived the pastures to a considerable extent and gave live stock a supply of fresh, if rather short, grass. Cattle were ready to go into winter quarters in better form than was hoped for earlier in the season, but, in view of the scarcity of hay and fodder generally, many animals were parted with at a sacrifice rather than that they should be kept over for stall feeding. Sheep were sold freely during the summer, and only choice mutton was kept for the winter. A great number of young hogs changed owners in the fall, and many of these were purchased on foot by drovers for fattening. Those handling pork spoke favorably of the condition of the market during the fall. Not a single case of disease was reported among cattle, sheep or swine, and nothing was feared from the winter except that the scarcity of feed might keep the animals in thin condition. In a few of the western counties there was an abundance of coarse grains, or corn stalks, straw and roots, but everywhere there was a shortage of hay.

HORSES.—The appended table gives the number in each of the three classes of horses by county groups, and for the province in 1888 and the preceding year, and the total number in each of the five years 1884-8 :

Horses.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
Working horses.	1888....	38,937	29,007	25,516	58,956	67,170	57,576	21,311	2,334	300,807
	1887....	39,442	28,754	24,218	59,061	65,430	55,304	22,181	2,114	296,504
Breeding mares.	1888....	16,729	14,289	10,047	24,983	23,507	20,390	7,322	1,113	118,380
	1887....	15,740	12,708	9,229	23,177	24,265	19,304	6,636	848	111,907
Unbroken horses.	1888....	25,815	19,802	14,677	35,062	37,252	31,195	12,130	1,098	177,031
	1887 ..	22,357	18,474	14,327	32,291	36,018	31,292	11,121	1,070	166,950
Totals....	1888....	81,481	63,098	50,240	119,001	127,929	109,161	40,763	4,545	596,218
	1887....	77,539	59,936	47,774	114,529	125,713	105,900	39,938	4,032	575,361
	1886....	77,949	59,879	46,828	111,454	126,204	105,228	38,066	4,041	569,649
	1885....	75,408	58,189	46,054	111,271	122,078	102,938	39,048	3,823	558,809
	1884....	74,116	56,414	43,316	106,324	117,985	96,889	37,412	3,497	535,953

There has been an increase of 20,857 in the total number of horses in the province compared with the previous year, of which 4,303 are working horses, 6,473 breeding mares and 10,081 unbroken animals. An increase is observable in every group in the total number of horses, although there has not been an increase in every class. Working horses have decreased in the Lake Erie, West Midland and East Midland groups.

HORNED CATTLE.—In the following table the number of cattle is given by classes in each county group and in the province for 1887 and 1888, together with the total number in each for the five years 1884-8 :

Cattle.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
Working oxen	1888.	1,586	1,399	2,114	1,062	1,182	1,126	2,180	1,923	12,572
	1887	1,579	1,257	2,386	1,210	1,519	1,415	2,292	2,105	13,763
Milch cows...	1888	87,440	75,743	58,007	154,947	125,432	208,194	63,288	8,508	781,559
	1887	86,054	73,112	54,528	150,646	122,504	193,685	59,692	8,100	748,321
Store cattle over 2 years.	1888	47,250	64,699	37,852	89,255	59,017	60,824	25,547	4,495	388,939
	1887	46,208	58,125	37,679	94,102	63,523	63,543	25,137	4,263	392,580
Young and other cattle.	1888	90,055	108,017	77,047	173,174	115,126	125,512	45,876	10,761	745,568
	1887	98,493	112,467	75,564	183,398	124,937	136,587	51,856	10,298	793,600
Totals........	1888	226.331	249,858	175,020	418,438	300,757	395,656	136,891	25,687	1,928,638
	1887	232,334	244,961	170,157	429,356	312,483	395,230	138,977	24,766	1,948,264
	1886	239,183	250,631	178,296	447,929	326,751	412.176	137,991	25,216	2,018,173
	1885	230,142	244,300	179,073	438,807	316.302	401,086	139,938	26,832	1,976,480
	1884	222,016	246,755	176,464	431,885	303,675	384,215	135,047	25,613	1,925,670

The total number of horned cattle in the province in 1888 falls below that of any year since 1884, and is less by 19,626 than in 1887, the decrease being divided between working oxen, store cattle and young animals, while an increase of 33,238 is noted in the number of milch cows. In the last named class an increase was observed in every district, showing that notwithstanding the poor pastures of the previous year farmers were not parting too readily with their milking stock. In store cattle a decrease occurred in the West Midland, Lake Ontario and St. Lawrence and Ottawa counties. Young cattle exceeded the number reported in 1887 only in two groups—the Georgian Bay counties and the Northern Districts. The greatest falling off in the total number of cattle took place in the Lake Ontario and West Midland groups, but in four of the groups an increase was made over their totals in 1887. Milch cows constitute 40.5 per cent. of the total cattle, from 30.3 per cent. in the Lake Huron counties to 52.6 in the St. Lawrence and Ottawa group.

SHEEP.—Following is a table showing by classes of coarse and fine woolled sheep, the number over and under one year in the province, and by county groups for 1887 and 1888; also, the total number in each of the five years 1884-8:

Sheep.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
Coarse-woolled:										
Over 1 year.	1888	62,120	83,682	78,200	117,027	97,630	142,161	44,303	7,841	632,964
	1887	66,775	84,104	82,975	119,414	100,220	162,112	50,194	8,141	673,935
Under 1 year	1888	43,671	52,422	47,261	76,270	61,678	76,353	24,609	4,238	386,502
	1887	44,546	56,716	51,040	80,456	60,019	88,223	27,311	5,464	413,775
Fine-woolled:										
Over 1 year.	1888	23,235	17,838	23,561	36,063	37,123	41,344	13,182	3,689	196,035
	1887	23,661	17,098	19,909	34,189	33,708	39,720	12,213	2,980	183.478
Under 1 year	1888	18,402	13,328	14,922	25,395	26,932	23,379	8,951	2,234	133,543
	1887	17,868	11,541	13,668	24,531	22,503	25,075	8,087	1,700	124,973
Totals........	1888	147,428	167,270	163,944	254,755	223,363	283,237	91,045	18,002	1,349,044
	1887	152,850	169,459	167,592	258,590	216,450	315,130	97,805	18,285	1,396,161
	1886	171,238	191,776	189,405	300,149	263,571	369,851	105,664	19,295	1,610,949
	1885	186,718	210,183	207,313	343,009	277,975	387,685	123,618	19,104	1,755,605
	1884	205,532	238,994	213,484	373,798	297,483	421,472	122,102	17,868	1,890,733

A falling off is still observable in the number of sheep in the province, but the decrease in 1888 is 47,117, as compared with 214,788 in 1887. The ratio of the number in 1888 to that in 1884 is as 5 to 7. The actual decrease, however, is confined to the coarse-woolled class, where the number is smaller by 68,244 than in 1887, a reduction occurring in each group. The number of fine-woolled sheep has increased by 21,127, contributed by every group except the St. Lawrence and Ottawa counties, in which a slight decrease occurs in lambs. An increase in the total number of sheep was made in but one district, the Lake Ontario counties, where the figures rose from 216,450 in 1887 to 223,363 in 1888.

THE WOOL CLIP.—The clip of coarse and fine wool is given by county groups and for the province for the years 1887 and 1888 in the following table, together with the average total clip for the seven years 1882-8 :

Total clip.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
		lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Coarse wool.	1888..	373,975	497,357	455,426	694,356	604,001	715,751	240,778	47,100	3,628,744
	1887..	388,093	482,146	458,825	691,324	609,958	769,106	259,989	46,213	3,705,654
	1882-8	500,441	621,718	550,701	973,618	813,683	937,463	306,339	45,563	4,749,526
Fine wool.	1888..	129,030	102,340	125,482	196,298	203,904	214,806	70,146	20,277	1,062,283
	1887..	121,129	93,483	101,870	179,534	185,774	197,061	59,293	14,451	952,595
	1882-8	114,251	90,262	94,274	173,553	174,944	217,210	64,988	13,925	943,407
Total...	1888..	503,005	599,697	580,908	890,654	807,905	930,557	310,924	67,377	4,691,027
	1887..	509,222	575,629	560,695	870,858	795,732	966,167	319,282	60.664	4,658,249
	1882-8	614,692	711,980	644,975	1,147,171	988,627	1,154,673	371,327	59,488	5,692,933

The total wool clip of the province exceeds that of 1887 by 32,778 pounds, there being a decrease in coarse wool of 76,910 pounds, and an increase in fine wool of 109,688 pounds. The clip of coarse wool exceeds its record of the previous year in the Lake Huron and West Midland groups and the Northern Districts, but an increase in the clip of fine wool is reported in every district. The new settlements comprising the Northern Districts show an increase over the average total clip for the seven years 1882-8, but in all the older groups a decided falling off is noticed. This is due, however, to the decrease in the number of animals, and not because of any decline in the weight of the average fleece, as will be seen by the following table, which gives the average weight per fleece for 1887, 1888, and for the seven years 1882-8 :

Clip per fleece.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
		lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Coarse wool	1888..	5.91	5.77	5.65	5.78	5.98	4.92	5.30	5.79	5.58
	1887..	5.84	5.86	5.72	5.90	6.13	4.97	5.40	5.78	5.64
	1882-8	5.68	5.71	5.53	5.73	5.99	4.81	5.22	5.68	5.50
Fine wool..........	1888..	5.42	5.66	5.27	5.29	5.37	5.04	5.05	5.42	5.28
	1887..	5.15	5.47	5.13	5.21	5.48	5.01	5.16	5.15	5.22
	1882-8	5.02	5.40	5.17	5.28	5.36	4.87	4.90	5.21	5.13

Coarse wool was lighter by .06 lb. per fleece than in 1887, but exceeded its average for the seven years 1882-8 by .08 lb. Fleeces of fine wool, however, averaged .06 lb. heavier in 1888 than in 1887, and .15 lb. more than in the seven years period. The best averages for coarse woolled fleeces were in the Lake Ontario and Lake Erie groups, being 5.98 lb. and 5.91 lb. respectively, while the lightest average clip, 4.92 lb. was returned in the St. Lawrence and Ottawa counties. In fine woolled fleeces the Lake Huron group led, the average being 5.66 lb. per fleece. The St. Lawrence and East Midland counties, however, showed only 5.04 and 5.05 pounds per fleece. The average weight of coarse wool exceeds that of fine wool by 3 lb. in ten fleeces.

HOGS.—The number of hogs in each group and in the province in 1887 and 1888 is given by classes in the appended table, together with the total for each year since 1884 :

Hogs.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
Over one year..	1888	35,491	16,454	15,999	27,782	32,099	43,144	14,611	2,074	187,654
	1887	35,638	15,644	18,457	30,611	37,770	47,513	19,868	1,443	206,944
Under one year	1888	150,693	54,889	56,853	137,625	116,192	75,243	34,802	5,128	631,425
	1887	150,205	54,056	52,558	131,990	116,908	78,548	36,931	4,677	625,873
Totals	1888	186,184	71,343	72,852	165,407	148,291	118,387	49,413	7,202	819,079
	1887	185,843	69,700	71,015	162,601	154,678	126,061	56,799	6,120	832,817
	1886	183,358	69,942	76,193	166,002	170,014	137,263	50,327	7,026	860,125
	1885	163,002	69,709	77,763	155,767	163,933	132,154	51,418	8,516	822,262
	1884	163,451	87,521	91,711	178,755	181,518	140,165	60,843	12,194	916,158

There has been a decrease from 1887 in the number of hogs of 13,738. There are fewer swine in the province than in any year of the Bureau's existence. An increase in the number of old hogs is noted only in two districts, while five groups report an increase in the class under one year. Swine raising is carried on most extensively in the corn growing counties of the Lake Erie group, where nearly 23 per cent. of the hogs of the province are reported, and the West Midland and Lake Ontario districts come next in order.

POULTRY.—Domesticated fowls, like cattle, have a dual commercial value of flesh and product. In the following table no reference is made to the egg product, but the number of birds is given in their classes by county groups for 1887 and 1888, together with the total for the past five years :

Poultry.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
Turkeys	1888	54,614	28,921	25,848	62,580	58,075	79,832	22,992	3,157	336,019
	1887	70,365	27,817	33,451	71,320	84,951	96,878	21,812	3,004	409,598
Geese ..	1888	45,085	44,083	43,881	70,272	72,219	70,243	29,224	2.819	377,826
	1887	54,641	47,639	48,901	79,283	86,811	73,778	33,026	3,976	428,055
Other Fowls..	1888	761,885	639,794	478,753	1,171,145	982,704	989,152	369,947	56,889	5,450,269
	1887	817,635	628,393	467,537	1,141,482	1,088,892	1,012,061	389,924	54,784	5,600,708
Totals.	1888	861,584	712,798	548,482	1,303,997	1,112,998	1,139,227	422,163	62,865	6,164,114
	1887	942,641	703,849	549,889	1,292,085	1,260,654	1,182,717	444,762	61,764	6,438,361
	1886	1,007,965	740,057	579,679	1,377,089	1,371,697	1,394,001	433,790	64,637	6,968,915
	1885	942,877	655,455	524,427	1,284,037	1,234,590	1,247,901	390,272	57,246	6,336,805
	1884	824,977	671,133	525,544	1,232,858	1,234,179	1,266,214	413,263	69,438	6,237,606

Taking the totals for the province a decrease is observed in every class of poultry compared with 1887, there being a falling off of 73,579 in the number of turkeys, 50,229 in geese and 150,439 in other fowls, making a total decrease of 274,247. Of this decrease the Lake Erie and Lake Ontario counties are accountable for 228,713.

PROPORTIONATE NUMBERS OF LIVE STOCK.—The following table gives the average number of the various classes of live stock per 1,000 acres cleared, by county groups for 1888 :

Live Stock.	Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa	East Midland.	Northern Districts.	The Province.		
									1888.	1887.	1882-8.
Horses.......	61.1	50.1	49.8	53.3	56.1	48.6	49.3	38.6	52.7	51.8	51.5
Cattle........	169.6	198.6	173.5	187.2	131.8	176.2	165.6	217.9	170.6	175.4	174.6
Sheep........	110.5	132.9	162.6	114.0	97.9	126.1	110.1	152.7	119.3	125.7	155.8
Hogs	139.5	56.7	72.2	74.0	65.0	52.7	59.8	61.1	72.4	75.0	79.4
Poultry	645.6	566.5	543.9	583.5	487.9	507.2	510.7	533.2	545.1	579.6	572.8

Horses show an increase over 1887 and also over the average for the seven years, but all the other classes fall below their ratios for both periods. The highest rate for horses on the basis of 1,000 acres cleared is found in the Lake Erie group, the Lake Ontario counties coming second with five head less. The Northern Districts though lowest in the rate of horses, leads in the rate of cattle, followed closely by the Lake Huron counties. The rate of sheep is greatest in the Georgian Bay group, with the Northern Districts second. The proportion of hogs in the Lake Erie counties is nearly double that of any other group, 265 being the rate in Essex. In poultry the rates range from 487.9 in the Lake Ontario group to 645.6 in the Lake Erie counties. The latter group leads in rates of horses, hogs and poultry, while the Lake Ontario group has the lowest proportion in cattle, sheep and poultry.

FROM THE MAY REPORT.

Robert Manery, Mersea, Essex : All stock have done well with the exception of cattle that were fed out of doors and had no shelter. They consumed an unusual amount of feed, and came out the poorest we have had them in a long while. There has been no disease but "hollow horn." We are pretty nearly cleaned out of fodder.

Alex. Young, Harwich, Kent : All live stock are healthy, and horses are in good demand for the American markets. Cattle are thin owing to the scarcity of feed and late spring. Sheep have wintered well, and have produced an unusually large number of lambs. Pigs are generally healthy, although some complain of the young ones dying.

Wm. Clark, Aldborough, Elgin : Horses are in good order, but cattle as a general thing are thin, though in good health generally speaking. Some sheep are very thin, while others are in ordinary condition. No disease has appeared but horse distemper, but it has not been of a very serious nature. Fodder is scarce as a general thing.

James Watson, Moore, Lambton : No serious diseases have been reported among horses, cattle, sheep or pigs. Some colts died soon after foaling—from weakness or general debility. There is a great scarcity of fodder. Some have had to buy hay who imagined they would have more than they would require, and very little feed will be left over this year. On the whole stock will go on the grass in a lean condition, and will have to go before the grass has got a good start.

John Wright, Goderich, Huron : The condition of live stock varies a good deal. Horses generally are in fair condition, although some have been affected with distemper, and a few mares and colts have died this spring. Cattle are poor and thin, owing to the scarcity of fodder with a good many farmers, but sheep and pigs are in good order. Fodder is rather scarce this spring, owing to last summer being so dry.

James Johnston, Carrick, Bruce : Horses in many cases have been troubled this winter with influenza or a mild distemper, and are out of condition on that account, although but few were lost. Cattle generally are not in as good condition as usual ; perhaps the scarcity of turnips may be the cause of this, as there is no scarcity of other feed. Sheep and pigs have done well. There is plenty of all kinds of feed except roots.

George Binnie, Glenelg, Grey : Horses generally are in good condition. There was a good deal of distemper during the winter, and also a good deal of another disease which manifested itself in a swelling of the legs and up into the body, and which sometimes proved fatal. Cattle, sheep and pigs, are in ordinary condition, strong and healthy if not very fat. Fodder did not seem to have the "last" in it that it usually has for the same bulk, still, generally, there was a sufficient supply for all purposes.

John McPherson, Lobo, Middlesex : I heard a person once remark that when he started in life he had nothing, and that he had held his own remarkably well ever since. Now, that is about the way with the stock this spring—they went in winter quarters very thin and they have come out about the same. There has been no disease except distemper among the horses, but a great many young pigs I think were lost owing, I believe, to the cold weather. Fodder was very scarce, but farmers used economy from the start, and therefore managed to pull through.

F. Malcolm, Blandford, Oxford : The condition of live stock is not equal to former years. Some explain that this is partly due to the fact that the quality of rough feeds is not as good as usual. In no department of live stock is the condition up to the average. Otherwise stock is in a healthy condition. The generality of farmers are scarce of feed, and are praying for early grass.

John McDonald, Garafraxa W., Wellington : The condition of live stock is fair. There has been some kind of epidemic among horses, and some have been lost. There have also been many deaths amongst colts this spring. There has been a sufficiency of feed in this section.

George Hart, Saltfleet, Wentworth : Horses are thin in flesh, but in general good health. Cattle are going out this spring as poor as I ever saw them. Sheep and pigs have wintered well, and there has been no disease of any kind. The supply of fodder was short, and some turned out their stock before the grass got fairly started.

Alex. McCowan, Scarborough, York : Live stock are in very fair condition with some few exceptions. A good many pigs in this neighborhood have gone lame. They seem to loose all power of themselves, and do very little good afterwards. I do not know the cause unless the pea meal feed has been too strong for them. On the whole there has been a sufficient supply of fodder ; some have had to buy, while others were able to sell.

Franklin Jones, Hillier, Prince Edward : Live stock are rather thin in flesh, and in many cases poor and weak. No special disease has prevailed, although more than an average number of cases of sickness is observable amongst both horses and horned cattle. There were a few cases of horse distemper. There was enough fodder for winter feed, but a remarkable scarcity for March and April.

John Sharp, Ernesttown, Lennox and Addington : Live stock of all kinds are rather thin in flesh and weakly for the want of sufficient good feed. Horses have had some distemper, but not of a fatal character. Most of our farmers have had to feed sparingly on account of scarcity of fodder, and many had to buy feed.

Ambrose Derbyshire, Bastard, Leeds and Grenville : Live stock in general (milch cows especially) look unusually thin this spring on account of an insufficient supply of food, many farmers feeding very sparingly. Horses are looking as well as usual, and so are sheep and pigs. Oats and hay are very scarce. There will be enough, but little to spare. There are a few farmers this year, as in other years, who will have some hay left, but the great majority will have none to spare, and some will have to buy.

James Clark, Kenyon, Glengarry : Horses, cattle and sheep, have wintered well. A disease has broken out in the neighborhood by which some farmers have lost five or six head of cattle. The disease was rot in the hoof and upwards, and the stench in the stables in which these animals were was almost unbearable. No veterinary examined them. Fodder is sufficient for all purposes.

James S. Cairnduff, Harvey, Peterborough : Horses and cattle are looking rather slim, but sheep and pigs are in fair condition. Horses had the distemper in adjoining localities, but all recovered. Fodder was not as plentiful as usual, but experience taught the farmers not to waste it in the forepart of the winter. There was enough for home supply.

John B. Morton, Huntingdon, Hastings : Horses have suffered from a distemper which caused the loss of some fine young animals. Cattle, owing to the scarcity of coarse grains, are very thin but healthy. Very few sheep are raised in this section. Pigs are in very good condition. Most of the farmers pinched through, but to the injury of their stock. Straw was abundant, but coarse grains and hay scarce.

James Early, Chaffey, Muskoka : There has been a disease among live stock. Their tails got diseased, and it effected their spines. They could not get up without help, and most of those attacked died. There was a plentiful supply of fodder throughout the winter.

FROM THE AUGUST REPORT.

E. B. Tole, Harwich, Kent : Pastures have been good on account of the showery weather. Live stock are in good condition and the prospect is good for fall and winter feed. Butter is scarce and dearer than for many years—at this season.

Samuel Williams, Southwold, Elgin : Pastures are now looking well, although they got a late start this spring. The condition of cattle is reported as good. The prospects for fall and winter are fair. The supply of dairy produce is fairly good.

G. W. Newman, Walsingham, Norfolk : Pastures are good, as there is just sufficient rain to keep things nicely growing. Live stock are in good condition. Hay will be scarce, but there will be an adundance of coarse feed. Farmers are turning their attention to the dairy more than formerly.

Frederick Mehlenbacher, Rainham, Haldimand : Pastures are miserably poor. Live stock are in very fair condition considering the state of pastures, but numbers will have to be sold owing to the shortage of grass and the scarcity of hay. The supply of dairy produce is much below the average.

A. A. Myers, Sombra, Lambton : Pasture is not very good on account of lack of rain, but live stock look extra well. There will be plenty of fodder, and there is every prospect of an abundant supply of dairy produce.

George Hood, Morris, Huron : Pastures are very bare, but nevertheless cattle are in good condition. The prospect for fall and winter keep is by no means bright. Cows have failed very much in their yield of milk.

Wm. Whitelaw, St. Vincent, Grey : There is little or nothing on pastures. Live stock were in good condition until the middle of July when pastures gave out. If the rain continues, fall feed will be good, but winter feed will be scarce. The supply of dairy produce is about 80 per cent. of what it was last year.

George Sneath, Vespra, Simcoe : Pastures on high lands have been dried out for weeks ; consequently live stock is in poor condition. The prospects for fall and winter keep are very poor indeed, as there will not be nearly enough fodder to keep the stock through the winter. Farmers would gladly sell, but cannot find purchasers at any price. The supply of dairy produce has been much under the average.

Malcolm Campbell, Ekfrid, Middlesex : Pastures are very good as they have been kept fresh by frequent rains. Live stock are in very good condition. but there is rather poor prospect for winter supply. Some have sown Hungarian grass seed in their summer fallows to supplement the lack of hay. Our cheese factory has done fairly well, and milk is still keeping up the supply.

J. W. Whealy, Nissouri E., Oxford : Pastures have been very bare, but this week's rains will freshen them up. Live stock are in good condition, and the prospects for fall and winter keep are middling. As a large quantity of oats and corn are grown the loss of the hay crop will not be so keenly felt. The supply of dairy produce is rather light, although better than last year.

D. McDiarmid, Brantford, Brant : Pastures are short and stock is thin, yet the prospects are good for fall and winter keep—on account of western corn and millet being sown to a great extent. The supply of dairy produce is rather short.

John Campbell, Blanshard, Perth : Pastures have been very bare, consequently stock are in poor condition, but the prospect for fall feed is better. The creamery in this section was poorly supplied on account of the drouth in the early part of the season.

George Cushing, Arthur, Wellington : Pastures are in bad condition and have been all summer. Cattle are almost "spring poor," but since the rain came the fields are getting green again and the prospects for fall pasture are fair. Winter feed will be scarce. The supply of dairy produce will be short.

Christian T. Groh, Waterloo, Waterloo : Pastures are short, but will keep live stock in thrifty condition. There will be no fattening on pasture, however, except on low lands where meadows are damp. While stock is in fair condition, many farmers will sell off their lighter stock and fatten none but the best, as it pays to feed only choice cattle for the British markets.

Matthew Varcoe, Amaranth, Dufferin : Pastures have been very poor, but the late rains have freshened them some. Live stock are in very poor condition, and many are wondering how they are going to keep their cattle over the winter.

Isaac A. Merritt, Grimsby S., Lincoln : Pastures are short on account of dry weather, and consequently live stock are not doing well. There is not a very good supply of dairy produce.

Robt. Inksetter, Beverley, Wentworth : Pastures have not been very good. Had it not been for green fodder cattle would have been hard up. They are now getting in fair condition after the short fare of last year. Dairy produce will not be up to the average quantity.

Colin Cameron, Nassagaweya, Halton : Pastures could hardly be any worse, as they are completely burned up, and there is no fresh clover to take its place for fall pasture. Live stock are in fair condition, but fodder is going to be scarce and dear. There are very poor prospects for much butter.

Wm. Kersey, Toronto Gore, Peel : Pastures are very scant. I never before saw live stock in so thin a condition, and the prospects for fall and winter are not very bright, as hay and straw will not make one-half of a good average crop.

Thos. Ramage, Etobicoke, York : Pastures are poor. Live stock are in fair condition. For fall keep the prospects are better than they were last year, but for winter keep it will require great economy.

Robt. H. Shipman, Brock, Ontario : Pastures have improved since the rains of August 3rd. Live stock are in fair condition. There will probably be plenty of pasture from now till winter, but farmers will have to economize in their hay and straw for winter. The supply of dairy produce is small.

W. G. Rundle, Darlington, Durham : Pastures are very short, yet stock are in as good condition as could be expected. Hay was very short and straw was not very plentiful, and feed will not be too abundant. A great deal of western corn has been sown, which will partially supply the lack of other feed.

John Williams, Hamilton, Northumberland : Pastures are very poor, and live stock are not in good condition. The rain has given the burnt up pasture fields a little start, and should we get frequent showers live stock may hold their own, but not otherwise. The prospect for the winter is a dreary one for a great many, owing to the great deficiency of both hay and straw. Butter and cheese are both scarce.

S. N. Smith, Sophiasburg, Prince Edward : Pastures are very poor, having been burnt up by drouth, and stock are looking thin. Many are planting western corn and sowing seed for fodder for the winter since the rain. The winter will be a trying one, as most farmers are short of feed for their stock.

C. R. Allison, Fredericksburg S., Lennox and Addington : Pasture is very short and stock as a general thing thin in flesh. The shortage of fodder will be felt very keenly by many farmers this winter, unless they can dispose of a large portion of their stock or import fodder from outside the country.

R. J. Dunlop, Pittsburg, Frontenac : Pastures are in a very bad condition. Live stock are suffering for want of pasture and in many instances for want of water. Cattle are consequently not in good condition, and the prospects for fall and winter keep never were worse in this section. Dairy products are short of an average.

Isaiah Wright, Augusta, Leeds and Grenville : Pastures were in good condition in the forepart of the summer, but lately are poor. Live stock are in good condition as farmers are begining to feed green corn. Dairy produce is falling off very much.

Wm. Kyle, Williamsburg, Dundas: Pastures are pretty well burned out. Live stock are looking better than one would expect judging by the pastures. Winter fodder will be very scarce and dear. The supply of dairy produce is not large, but equal to last year.

P. A. Stewart, Lochiel, Glengarry: Pastures are dry generally. Live stock are in fair condition. A large quantity of corn has been grown for green fodder in order to supplement pastures during the dry weather and keep up the flow of milk. There will be plenty of feed for fall and winter and some to spare. There is not much butter exported, as most of the milk is made into cheese.

Joseph Kyle, Hawkesbury E., Prescott: Pastures are in about the same condition as last year, but recent showers will improve them. Live stock have fallen off a good deal, and some farmers are already feeding hay. There is a prospect of fodder being scarce during the winter. The flow of milk has fallen off from 25 to 50 per cent.

Edmund Byrne, Burgess, Lanark: Pastures are the poorest we have ever had, as the drouth and grasshoppers have left scarcely anything. Cattle are in poor condition and nearly every person wants to sell owing to the likelihood of a scarcity of feed in winter.

John Campbell, jr., Mariposa, Victoria: Pastures are brown and bare. Live stock are in medium condition, and the prospects for the future are that feed must be carefully saved from the start, so as to tide over the winter. The supply of dairy produce is short.

John Moloney, Douro, Peterborough: Pastures are in miserable condition on account of the very dry season. Live stock are only in fair condition for want of good pasture. The prospects for keeping live stock in good condition during the coming fall and winter is very disheartening as feed is going to be very scarce and hard to be got. The supply of dairy produce will be small.

D. Galloway, Lutterworth, Haliburton: Pastures are medium to good. Live stock is in fair condition I think there will be plenty of feed for fall and winter, owing to the abundance of wild hay.

Charles Anderson, Tyendinaga, Hastings: Pastures are very poor on account of the excessive drouth and at one time it was feared that the grass was killed at the roots; but latterly we have had some fine rains, and pasture fields now begin to show a shade of green. Live stock are not in good condition, and the prospects for winter keep are gloomy indeed. Most farmers will either have to buy feed largely, or else get rid of part of their stock. The supply of dairy produce is falling off rapidly.

A. H. Smith, Monck, Muskoka: Pastures are fairly green and improving. Live stock are in good condition, and careful feeding with the use of the chaff cutter will enable farmers to pull through the winter. The supply of dairy produce is limited, with good prices.

Hugh Jackson, Humphrey, Parry Sound: Pastures are in a very poor state. Cattle pasture very much in the woods and are in very good condition. There is a good supply of butter, but no cheese is made.

FROM THE NOVEMBER REPORT.

Arthur J. Arner, Gosfield, Essex: Fall pastures are in fair condition. They have been much improved since Sept. 15. Cattle, horses and sheep have been doing well during the past month. Cattle and sheep are seldom fattened except on grass. Hogs are doing well. Most farmers are alive to the fact that early feeding pays, and many of them feed pease and barley as a start. The supplies for market are large. The winter supply of fodder is quite sufficient.

Robt. Wilkie, Harwich, Kent: Fall pastures are very poor, but cattle are in fair condition. Not many cattle or sheep are being fattened, but a great number of hogs are. Hay is scarce, but rough fodder is plentiful.

W. W. Wells, Woodhouse, Norfolk: Fall pastures have been good. Live stock is in very good condition; all beefing stock are doing first-class. Sheep are in the best condition we have had them for many years. The prospect for winter fodder is not bright, but if care is taken there may be enough. Large quantities of fodder corn have been raised.

G. E. Fitzgerald, Rainham, Haldimand: Live stock are looking very well, but are not likely to fatten until housed. Cattle are mostly sold in summer and fall. Winter feed will be scarce. Lambs are nearly all sold. There are a less number of hogs than usual.

John E. Cohoe, Wainfleet, Welland: Pastures are in better condition than last fall, and live stock are in very fair trim. Cattle do not fatten well this fall, and a great many have been offered for sale at prices lower than for years. Sheep and hogs are very scarce. From present appearances I should say that beef will be plenty but mutton and pork short. There is plenty of coarse feed to take the stock through the winter.

James Watson, Moore, Lambton: Pastures are very poor, as the rain did not come soon enough. After the ground was moistened the temperature of the atmosphere was too low for vegetation to make rapid progress. Stock are healthy, but rather thin in flesh. Hay is a light crop. Rough grains such as oats, pease and barley, are plentiful.

John Burgess, Turnberry, Huron: Pastures are good and live stock are now doing well, but suffered from bare pastures in July and August. Hogs are not kept largely on account of milk being mostly sent to the cheese factories, but what there are are doing well. Sheep have been mostly marketed. Fodder will be very scarce.

John Morice, Normanby, Grey: Fall pastures are very good, yet live stock are in fair condition. The fattening process has just commenced. Sheep and hogs are healthy, and there is the ordinary supply for market. The supply of fodder is very small.

Samuel Taylor, Orillia, Simcoe: Fall pastures have had next to nothing, there was so little growth owing to the nights being cold. Live stock are in usual condition. There will be plenty of stock for the market supply. Fodder will be scarce.

Adam H. Secord, Dorchester N., Middlesex: Fall pastures are about done for this fall. Live stock is looking well. There is not much fattening of stock here as this is a dairy country, and hogs are sold alive throughout the season. If the winter is not too long, we may get through with great care in feeding.

James Anderson, Zorra E., Oxford: We have had no pastures for the last two months. Stock look well, as plenty soiling crops are grown. All live stock are in as good condition as is usual at this time of year. The winter supply will be less than usual, as a good deal of stock has been sold to be fed elsewhere.

D. McCormick, Brantford, Brant: Pastures are poor, and live stock are in a similar condition. Very few are fat, and many have suffered from lack of pasture. There are very few sheep in this section, but they are all in a good condition. Hogs are scarce, but they, too, are in good trim. There is a great scarcity of fodder.

Wm. Courtice, Fullarton, Perth: Pastures are about done. Live stock look middling, and some people have put up their fat cattle. But there will not be nearly so many fatted this winter as for some years past, grain and hay being so dear. Sheep are not popular, wool being so low in price. Hogs are doing well and are in favor at fair prices. There will not be a large supply of fodder generally, although there is plenty of hay.

Duncan McFarlane, Puslinch, Wellington: Fall pasture is short. The most of the live stock will be stall fed. Cattle are thin. Sheep and hogs are good. The prospect for the winter supply of fodder is good, with the exception of hay.

Christian T. Groh, Waterloo, Waterloo: Fall pasture is short, although live stock are in good, thrifty condition. We start about Nov. 1 to put up cattle for feeding. Few sheep are kept in this section and only a few hogs for local consumption. There will be a sufficient supply of beef, mutton and pork. A few farmers have adopted the syetem of ensilage but not as many as ought to; hard times will bring them to their senses.

M. G. Varcoe, Amaranth, Dufferin: Pastures have been very bare this fall. Cattle are in usual condition. Very few intend to stall-feed cattle. Hogs are thriving, and some are ready to kill. There will be plenty of grass-fed cattle, but fodder will be scarce owing to the scarcity of straw.

John H. Lindebury, Clinton, Lincoln: Fall pastures are very short on account of drouth. Fattening is very slow, for there is but little pasture. There are plenty of cattle, but sheep and hogs are not so plentiful. Fodder is scarce.

George Hart, Saltfleet, Wentworth: The drouth of summer was bad on pastures, and it was cropped so close that the fall rains did it little or no benefit; consequently all stock are in poor condition. There will be very few hogs for market.

Wm. F. W. Fisher, Nelson, Trafalgar: Pastures are very short. Stock are thrifty but a little thin, and very little feeding has been done. There are plenty of cattle, but few sheep and pigs. Fodder will be somewhat scarce during the winter.

Wm. Kersey, Toronto Gore, Peel: Pastures are very bare, and there is not one-half the acreage in grass that there should be on account of the last two summers' drouth. Live stock are very thin, and while there will be plenty of lean cattle there will be few fat. Fodder will be very scarce, and it will require great economy to winter the stock, as there is a scarcity of both hay and straw.

D. James, Markham, York: Fall pastures are very fair, but much of the meadows was plowed up immediately after cutting. Cattle look much better than they did at the same time last year. Hogs are generally young, as the high price of pork all summer induced farmers to sell pigs before they made heavy pork. Fodder will be scarce.

Joseph Picket, Uxbridge, Ontario: Fall pasture is as good as it has been for some years, and consequently stock are looking pretty well for the time of year. Some have stalled their cattle for winter, and have had pigs up for fattening, while several have killed and marketed their hogs already. Feed is going to be very scarce in this locality this winter.

Thos. Syer, Manvers, Durham: Pastures have been middling good, and live stock are in fair condition for the winter, but the winter supply of fodder is likely to be short, and economy will have to be used to make both ends meet. The turnip crop, being a good one, will be a great help.

Walter Riddell, Hamilton, Northumberland: Since the rains came pastures have been fair. Many cattle will be sold off the grass. The supplies for market are large. There is hardly any hay, and straw, is a short crop. Winter feed will probably be short.

W. R. Leavens, Hallowell, Prince Edward: The fall rains seemed to put new life into all vegetation, and pastures are good. Cattle and sheep are healthy and in good condition. Very few cattle or sheep have been fattened, except on grass. Hogs are chiefly raised for home consumption. Drovers are running everything off as fast as they can. I think there is enough fodder to winter with and some to spare.

Leonard Wager, Sheffield, Lennox and Addington: Pastures are good. Farmers have sold off nearly all their fat cattle and sheep. I think there will be a lack of meat for winter markets. Fodder will be very scarce.

Thos. Briggs, Kingston, Frontenac: The fall pastures are excellent, and live stock have improved very rapidly so as to be fit for marketing. Many of the farmers are killing and selling their beef and young cattle, there being a scarcity of hay and fodder, owing to the great drouth during the summer.

G. J. Carson, Augusta, Leeds and Grenville: Pastures are in good condition, and so are live stock. Not much beef is fatted in this section, and few cattle or sheep are for sale, as farmers go in chiefly for dairying; they keep all the milking cows they can and send the milk to the cheese factory. Fodder will be scarce this season. Most of the farmers will have enough, but few will have much to spare.

John Kennedy, Mountain, Dundas: Pastures are excellent, and live stock are looking well. The fodder supply is sufficient; but there will be no surplus.

G. E. Shaver, Osnabruck, Stormont: Pastures were never better. Cattle are in splendid condition, but there is no stall-feeding yet; the animals have fattened well on pasture. Most of the live stock is already marketed. There will be plenty of fodder for the winter.

D. B. McMillan, Lochiel, Glengarry: Pastures are in fair condition. Live stock are also in good order and fit for the market, but there is not much demand for beef. There is not much more than a supply of fodder for the winter.

Paul Labrosse, Hawkesbury E., Prescott: Pastures are in very good condition. Cattle were fat enough on grass for killing. Farmers sell all their surplus cattle, sheep and pigs to traders who send them to Montreal market. Droves are being sent every week from this township. There will be plenty of fodder.

Henry Armstrong, Clarence, Russell: Fall pastures are splendid this year, and live stock of all kinds are in good condition. There will be a scarcity of fodder for the winter, as straw and hay were short and thin in the ground.

John Scott, Goulbourn, Carleton: Fall pastures have done well since the rain. Cattle and sheep have improved, and quite a number have been exported—the heaviest cattle to Montreal for shipment to England, and the sheep to the United States. Hogs will be light as coarse grains are scarce. The fodder supply for winter is about sufficient.

A. T. Stewart, Beckwith, Lanark: Fall pastures were never better. Live stock are in splendid condition, and nearly all the surplus is sold. Hogs are generally all sold on foot. Fodder will be pretty scarce; every straw must be taken care of.

John A. Jackson, Eldon, Victoria: Pastures are fair. Live stock generally are in fair condition. Very little has been so far done in the way of fattening either cattle or sheep, but hogs have been fattened in considerable numbers. Supplies for market will be about as usual. Fodder will be scarce with many farmers. Ensilage has been adopted and with excellent results.

F. Birdsall, Asphodel, Peterborough: Pastures are in good condition, and live stock are in fair trim. Not many have been fattened for market on account of the scarcity of hay and straw. Hogs are mostly sold off in the fall. There will be enough fodder if careful feeding is practiced. I am trying a silo on a small scale. I think it is the only one in the county.

J. C. Hanley, Tyendinaga, Hastings: Pastures are good and so are cattle. On account of the failure of hay and straw supplies and the short crops of coarse grains, all cattle, sheep and hogs that could be sold were disposed of. Less fodder will be purchased than was expected at one time.

John Hollingworth, Watt, Muskoka: Pastures have been bare. Cattle are in fair condition. Fattening of cattle, sheep and hogs is not much practised here. Supplies are more than are wanted for our local market immediately. Farmers are wanting to clear out surplus stock at once on account of the scarcity of fodder for winter.

Wm. Jenkin, Perry, Parry Sound: There is very little pasture; cattle can just live on it and that is all. Cattle get fat in the woods. The surplus has been sold to buyers and shipped. Supplies are about sufficient for local consumption. Fodder is scarce, and hay is likely to rule high.

THE DAIRY INDUSTRY.

When correspondents wrote in October they reported that the second successive season of drouth had left its mark upon the dairying business. In some localities the falling off in milk was so great that a number of cheese factories were temporarily closed. The low price for cheese early in the season was also discouraging to patrons, but toward the close a more hopeful feeling prevailed. Butter was in demand all summer, and the good prices compensated to a large degree for the scarcity of milk and cream resulting from poor pastures. A panicky feeling existed in Lennox and other eastern counties during the early fall, and some good milking cows were sold at a sacrifice through fear that they could not be successfully wintered because of scarcity of fodder. The popularity of cheese factories and creameries was never more severely tested than during the season of 1888.

Cheese.—In the following table the aggregate of milk used, cheese made and the value of cheese are given for the 737 factories reported as in operation, based on the averages furnished by 557 factories. A neat comparison is afforded in the case of the years 1887 and 1888, as exactly the same number of factories were reported in operation in those years. The list for 1888 contains 47 new factories, while as many have been closed as far as reported by correspondents and cheese factory secretaries.

Year.	No. of factories in operation.	Quantity of—		Value of cheese.	Value of cheese per lb.	Milk to make 1 lb. of cheese.	Value of product of 100 lb. of milk.	Average per factory of—		
		Milk used.	Cheese made.					Milk used.	Cheese made.	Value of cheese.
		℔	℔	$	cts.	℔	cts.	℔	℔	$
1888...	737	686,369,013	65,299,751	6.031,470	9.237	10.511	87.9	931,301	88,602	8,184
1887...	737	691,934,579	65,638,656	6,918,913	10.541	10.542	100.0	938,853	89,062	9,388
1886...	770	654,703,243	63,721,621	5,893,818	9.249	10.274	90.0	850,264	82,755	7,654
1885...	752	733,437,254	71,209,719	5,781,569	8.119	10.300	78.8	975,315	94,694	7,688
1884...	751	685,964,727	66,939.573	6,998,889	10.456	10.248	102.0	913,402	89,134	9,319
1883...	635	539,696,197	53,513,032	5,589,339	10.445	10.085	103.6	849,915	84,272	8.802
1883-8..	730	665,350,835	64,387,059	6,202,333	9.633	10.334	93.2	911,024	88,161	8,492

In every respect save the quality of the milk, the business falls behind that of 1887. There was a decrease of 5,565,566 lb. in the total quantity of milk used, and the amount of cheese made was less by 338,905 lb. This falling off in the amount of the product, together with a decline of 1.304 cent per lb. in the price of cheese, reduced the value of the make to $6,031,470 or $887,443 less than in 1887. The price realised for cheese per lb. in 1888 was lower than in any year of the six with the exception of 1885. The quantity of milk required to make a pound of cheese was 10.511 lb., which, while .031 lb. below that of the previous year of drouth, was considerably higher than that of any other year, and .177 lb. more than that of the average for the six years. The value of the product of 100 lb. of milk was 87.9 cents, being 12.1 cents less than in 1887, when one dollar was realised. The average quantity of milk used per factory was 7,552 lb. less than in the preceding year, the amount of cheese was smaller by 460 lb., and the value by $1,204. The make of cheese exceeded the annual average per factory by 441 lb., but the value realised was $308 less.

Of the 557 factories reporting, however, but 404, or 55 per cent. of the number in operation, sent in complete returns. Notwithstanding this indication of a decrease of interest in dairy statistics on the part of factory managers and secretaries, a fair comparison is still afforded of the number of patrons and cows, together with other points of interest in connection with the industry, which are given in the following table :

Year.	No. of patrons returned.	Quantity of—		Value of cheese.	Number of—		No. per factory of		Average per cow—			Average return per patron.	Average No. of days worked.
		Milk used.	Cheese made.		Patrons.	Cows.	Patrons.	Cows.	Yield of milk.	Product of cheese.	Value of product.		
		℔	℔	$					℔	℔	$	$	
1888.	404	402,599,463	38,336,589	3,549,753	24,674	150,618	61	373	2,673	254.5	23.57	144	153
1887.	459	450,513,282	42,833,449	4,515,188	27,679	165,710	60	361	2,719	258.5	27.25	163	156
1886.	455	404,036,443	39,361,482	3,646,564	23,244	146,325	51	322	2,761	269.0	24.92	157	156
1885.	433	436,335,359	42,479,047	3,446,514	26,300	154,824	61	358	2,818	274.4	22.26	131	157
1884.	445	426,260,665	41,595,027	4,357,208	24,015	158,366	54	356	2,692	262.7	27.51	181	159
1883.	385	327.353,679	32,495,811	3,396,882	19,797	117,577	51	305	2,784	276.4	28.89	172	156
Av'g. 1883-8	430	407,849,815	39,516,901	3,818,685	24.285	148,903	56	346	2,740	265.4	25.66	157	156

The average number of patrons to a factory was 61, being one more than in the preceding year, and more than in any year except 1885, when 61 patrons were also reported. The number of cows to each factory was increased to 373, or 12 more than in 1887. The yield of milk per cow, however, was less than in any year of the six, being 67 lb. below the average for the period. The product of cheese per cow was also less than in any other year, the falling off being 4 lb. compared with 1887, and 10.9 lb. compared with the annual average. The value of the product is less than in any year of the term except 1885, being $3.68 less per cow than in 1887, and $2.09 below the annual average. The average return per patron was $144, a smaller showing than was made in any year except that dullest of dairying seasons, 1885. The decrease was $19 compared with 1887 and $13 compared with the annual average. The foregoing results are partially due to the shorter period of operation, which was 3 days less than in 1887, which was an average season.

The value of the product of cow's milk for one day may be taken as the measure in comparing the relative success or failure of a cheese season. The following comparative table compiled from the 404 factories giving the full data, shows by groups of counties the average business per factory and the results obtained per cow for the whole season and per day for 1887, 1888, and the six years 1883-8 :

Districts.		Average No. of days worked.	Quantity of— Milk used.	Quantity of— Cheese made.	Value of cheese.	No. of— Patrons.	No. of— Cows.	Average per cow. Yield of milk per— Seas'n	Average per cow. Yield of milk per— Day	Average per cow. Value of product per Seas'n	Average per cow. Value of product per Day	Milk to make 1 lb. of cheese.	Value of cheese per 100 lb.	Value of product of 100 lb. milk.
			lb	lb	$			lb	lb	$ c.	cts.	lb.	$ c.	cts.
Lake Erie.	1888..	155	974,062	92,101	8,628	78	359	2,712	17.5	24 02	15.5	10.58	9 37	88.6
	1887..	159	934,109	87,275	9,051	75	344	2,712	17.1	26 28	16.5	10.70	10 37	96.9
	1883-8	158	885,647	84,545	8,190	69	319	2,776	17.6	25 67	16.2	10.48	9 69	92.5
Lake Huron	1888..	136	1,023,960	95,386	8,926	94	405	2,526	18.5	22 02	16.1	10.73	9 36	87.2
	1887..	143	1,155,953	107,616	11,185	91	431	2,683	18.8	25 96	18.2	10.74	10 39	96.8
	1883-8	142	1,021,876	96,902	9,513	84	384	2,661	18.7	24 77	17.4	10.55	9 82	93.1
Georgian Bay.	1888..	130	670,582	63,391	5,754	59	288	2,325	17.8	19 95	15.3	10.58	9 08	85.8
	1887..	126	601,281	56,567	5,780	53	254	2,367	18.8	22 72	18.0	10.63	10 22	96.1
	1883-8	131	543,601	52,527	5,051	52	226	2,405	18.4	22 35	17.1	10.35	9 62	92.9
West Midland.	1888..	160	1,547,717	144,812	13,752	84	521	2,973	18.6	26 42	16.6	10.69	9 50	88.9
	1887..	164	1,489,820	139,197	14,592	84	508	2,931	17.9	28 71	17.5	10.70	10 48	97.9
	1883-8	165	1,395,633	132,502	13,169	74	467	2,989	18.1	28 20	17.1	10.53	9 94	94.4
Lake Ontario.	1888..	151	735,277	70,476	6,389	57	283	2,598	17.3	22 57	15.0	10.43	9 07	86.9
	1887..	145	731,070	69,269	7,287	62	280	2,610	18.0	26 01	17.9	10.55	10 52	99.7
	1883-8	151	750,726	73,024	6,852	57	275	2,730	18.1	24 92	16.5	10.28	9 38	91.3
St. Lawrence and Ottawa.	1888..	154	841,156	81,145	7,375	44	340	2,475	16.1	21 70	14.1	10.37	9 09	87.7
	1887..	154	815,314	78,836	8,359	44	320	2,550	16.6	26 14	17.0	10.34	10 60	102.5
	1883-8	154	811,747	79,945	7,612	42	319	2,545	16.5	23 86	15.4	10.15	9 52	93.8
East Midland.	1888..	156	848,506	83,142	7,568	46	311	2,730	17.5	24 35	15.6	10.21	9 10	89.2
	1887..	153	901,391	88,263	9,540	47	309	2.914	18.4	30 84	19.5	10.21	10 81	105.8
	1883-8	159	871,690	86,954	8,225	45	310	2,812	17.7	26 53	16.7	10.02	9 46	94.4
The Province.	1888..	153	996,533	94,893	8,787	61	373	2,673	17.4	23 57	15.4	10.50	9 26	88.2
	1887..	156	981,510	93,319	9,837	60	361	2,719	17.4	27 25	17.5	10.52	10 54	100.2
	1883-8		948,120	91,864	8,877	56	346	2,740	17.5	25 66	16.4	10 32	9 66	93.6

It is evident from the averages here shown that they are the largest factories that make the complete returns, the average milk used in each of those for 1888 being 996,533 lb. as compared with 759,054 lb. for the other 153 factories which have made but partial returns. Likewise the average of cheese made, value of cheese, and milk required to make one pound of cheese vary slightly from those derived from the whole 557 factories returned, as shown in table x.

The length of the season was 3 days less than in 1887, extensions being observed in only the Georgian Bay and Lake Ontario groups, though neither exceeded its average season. Notwithstanding this early closing of the season, the milk used per factory exceeded that of 1887 by 15,023 lb., and the cheese make by 1,574 lb., due to an increase of patronage of 12 cows. The value of the cheese made was $1,050 less than in 1887 and $90 below the annual average business. The yield of milk per cow per day was the same as in 1887, or one-tenth of a pound below the average of the six seasons ; but the value of the cheese product was less than in 1887 by 2.1 cents, or one cent below the annual average. This reduction in value from 1887 is equivalent to 12 cents per 100 lb. of milk, which is therefore wholly due to fall in prices of cheese, as the cheese producing quality of the milk was slightly better than in 1887. The factories in the West Midland group as usual had the longest season, which was five days shorter than the average season of that group. This group also had the largest factories, those in the Lake Huron group coming second with less than two-thirds of the business. The greatest number of patrons is found in the Lake Huron counties, but this is the only group in which the number of cows per factory was less than in 1887. The yield of milk per cow per day was highest in the West Midland group, or 2½ lb. more than in the St. Lawrence and Ottawa group, where it was the lowest. These groups hold the same positions as regards the value of product per cow per day, the divergence being 2½ cents. The cheese producing quality of milk was best in the East Midland group, while the poorest results were obtained in this respect in the Lake Huron group. The make of the West Midland factories commanded the best prices, but the cheese producing quality of the milk in the East Midland factories predominated and placed that district first as to value of cheese product of 100 lb. of milk, the West Midland counties being a close second.

BUTTER.—During the season 1888 four new creameries were reported as in operation, making a total of 31, or 11 less than in 1887. The popularity of the creamery does not appear to be increasing among the farmers, more than one correspondent remarking that farmers seem a little shy in venturing to patronise creameries. Another says, "our people do not manifest their relish for good butter by paying the price it costs to make a first-class article." No less than three of the creameries of 1887 were converted into cheese factories in 1888. Returns have been received from 27 creameries. Of these three made both butter and cheese, the preference being apparently given to cheese. The statistics are given as usual by counties in table XIII. The three combination institutions used 2,078,257 lb. of milk, the product of which was 39,064 lb. of butter valued at $7,972, and 153,247 lb. of cheese valued at $12,350. The joint cheese and butter product of the milk was therefore $20,322, or 97.8 cents per 100 lb. The 24 butter factories produced 638,215 lb. of butter, or 26,592 lb. per creamery, as compared with 34,250 lb. in 1887, the decrease being due to the short season in Bruce and Grey chiefly, and the falling off of patronage. Four creameries also report milk collected, the average quantity of milk to a pound of butter being 24.9 lb., and the price realised was equivalent to 81.6 cents per 100 lb. of milk, which is 16.2 cents less than the combined butter and cheese process, and 6.6 cents less than obtained at 404 cheese factories. There does not appear to be any standard gauge for cream used, some stating it in pounds and others in inches from cans of various diameters. From the data furnished by five creameries using 713,537 lb. of cream, we find that 4.38 lb. of cream are required to make a pound of butter, and that the prices realised for the butter was equal to 4.63 cents per lb. of cream. Comparing this with results obtained above it appears to have taken 5.7 lb. of milk to produce as much butter as 1 lb. of cream. The average price realised for butter was a trifle higher than in 1887.

Of the 27 returns, however, only 14 were complete as regards the number of patrons and cows. The following table shows the average business of these creameries compared with the averages of a similar portion of the returns obtained in previous years, together with the annual averages :

Year.	No. of Returns.	Average per Creamery of—				Value of product per cow per—		Average date of—		No. of days worked.
		No. of patrons.	No. of cows.	Butter made.	Value of butter.	Season.	Day.	Opening	Closing.	
				lb.	$	$ c.	cts.			
1888.	14	101	423	33,440	6,769	16 00	12.69	May 16	Oct. 11	126
1887..........	23	109	468	37,270	7,563	16 17	12.65	" 16	" 15	128
1886.....	20	82	379	30,803	6,023	15 89	12.41	" 19	" 16	128
1885..........	8	84	436	34,122	6,751	15 48	11.16	" 14	" 25	139
1884..........	5	67	318	23,658	5,143	16 16	13.71	June 3	" 20	118
1883.	5	56	228	18,977	3,924	17 21	14.50	May 21	" 9	119
1883-8	....	91	406	32,368	6,514	16 03	12.52	May 18	Oct. 16	128

As observed in the case of the cheese factories, the largest creameries are found in this list, these 14 creameries manufacturing 468,166 lb. of butter, while the other 10 partially reporting make but 170,049 lb. As this has been the case in other years, a comparison on these lines is quite fair. The patronage per creamery fell off by 8 patrons and 45 cows from that of 1887. The make of butter was 33,400 lb., as compared with 37,270 lb. in 1887, but was slightly above the annual average. The value was $794 per creamery less than in 1887, and the value of butter product per cow was 17 cents less for the season, which, however, was due to the time of working being two days less, as the daily average per cow was 12.69 cents against 12.65 cents in 1887. If to this be added .42 cent, (Prof. Robertson's estimate for the buttermilk), we have 13.11 cents as the daily butter product per cow, as compared with 15.36 cents obtained for the cheese product.

THE FAVORITE DAIRY COW.—"Many men, many minds," runs the adage, and in nothing does the saying hold truer than in the matter of the favorite cow for the Ontario dairy. This question of favorite breeds does not appear to be greatly influenced by geographical situation, for in every section of the province the leading breeds have their champions. While a few correspondents stand up stoutly for the "old native cow" as equal to the best of the fancy strains for dairy purposes, the preponderance of opinion is clearly in favor of Durhams and their grades. It is argued that the male calves of the Shorthorn bulls are usually raised with profit for beef, and that when grade cows have done their duty in the dairy they, too, can be turned over to the butcher with advantage. Ayrshires are holding their own, but they are doing very little more than that, while Holsteins and Jerseys are rapidly coming into favor. These last named breeds, however, have hardly been tested long enough by our dairymen for a fair comparison to be made between them and the Durhams and Ayrshires in actual practice under the ordinary conditions of a Canadian dairy farm. Scattering mention was made of other breeds, but none of these has a large support. It is very plain from the reports of correspondents that the question of milk production was never more closely considered by the farmers of Ontario than at the present day.

FROM THE NOVEMBER REPORT.

James H. Brown, Colchester S., Essex: There are no factories, either of cheese or butter in this township, but a large quantity of butter is made on the farms. The breeds of milch cows in most repute are grade Durhams and Ayrshires.

Francis Giffard, Camden, Kent: The dairy business has been in the worst condition I ever saw it. The cheese factories in this section had to shut down on account of the drouth but some of the farmers are making a little butter since the rains. Shorthorn grades are most in favor.

Sheldon Ward, Malahide, Elgin: The product of cheese as compared with butter is largely in favor of cheese. The supply of butter is hardly equal to the demand. Grades of all descriptions are used in this locality. Some fine milkers are got by a cross of Shorthorn stock, and the Holsteins are coming into favor.

James Morrison, Walsingham, Norfolk: Cheese is the leading business here; there are no butter factories. Durham grades are chiefly kept for the dairy, but some Holsteins have been introduced of late.

John A. Law, Stamford, Welland: There is very much more butter made here than cheese. Most of the cheese factories have been closed for the season. Durham grade milch cows are still the favorites, but some Ayrshires and Jerseys are being used in our dairies.

James Lovell, Brooke, Lambton: Butter is not of much account as compared with cheese. The severe drouth of the past three seasons has injured the dairy business. Durham grades are in the greatest favor.

John Scott, Howick, Huron: There are no butter factories in this township, consequently the main produce is cheese, as farm produce cannot compete with the factory system. There is a great diversity of opinion in regard to the best breeds of cows for the dairy. However, if we judge men by their actions, the shorthorn grade is in most favor, as there is by far the greater number of that breed in the township.

Thos. Welsh, Huron, Bruce: The season has not been favorable for the dairy. Cheese is the more important branch; butter is improving in quality. The breeds most in vogue are shorthorn grades and a sprinkle of Ayrshires and Shorthorns.

Malcolm Cameron, Bentinck, Grey: The dairy industry is gaining in this township. A new butter factory started here last May with good results. The price this year is better than it has been for some time. Many prefer the butter factory as the milk is kept for home use. The most popular cow for milk here is the Durham grade. The common Canadian cow is preferred by many.

John Darby, Vespra, Simcoe: There are no creameries here and butter is only produced by private dairies. Durham grades are mostly kept, with a view to beef as well as butter.

James A. Glen, Westminster, Middlesex: The dairy industry was run for all it was worth, but low prices have kept down the profits, and poor pastures have very much shortened the fall make. All the butter made has been required by the cities of London and St. Thomas and for local needs, and very remunerative prices were realized. Common cows, or Ayrshire and Durham grades, are preferred. The butter makers prefer the Durham as they invariably raise the calves. There is an usually large number of farrow cows.

J. W. Whealy, Nissouri E., Oxford: We don't raise enough butter for the farmers' own use—all cheese. Many farmers send all their milk to the factory and buy butter if they can get it, or do without it, as it will not pay to make special fixings for the manufacture of butter during the hot months. Ayrshires, Durhams and grades are most in favor. Holsteins have not yet got into general use.

John Pearson, Ellice, Perth: The dairy industry has not been brisk. The cheese factories have experienced some trouble to get their patrons to continue to send milk, butter being higher correspondingly than cheese. The old Canadian cows crossed with the Durham seem to be the favorites.

James McLuhan, Luther W., Wellington: This has been a poor year for dairying, pasture being poor and the price of cheese low. Home made butter has been as profitable as cheese this year, if not more so. Grade cattle are the best dairy cows, and Durham bulls are the kind in use.

W. C. Smith, Wilmot, Waterloo: Our butter factory has been in operation about twelve or fourteen years, and has not paid as well as our cheese factories. The grade Shorthorn is the favorite. We have some Holsteins, but they do not take very well.

Jonathan Varcoe, Amaranth, Dufferin: There has been far more butter made than cheese. Laurel cheese factory has been nearly a failure this season—it does not appear to have paid either patrons or manufacturer. Shorthorn grades are most in favor. Ayrshires have disappeared, and we have no distinct variety of milch cow.

Smith Bros., Chinguacousy, Peel: The dairy industry is increasing, but more so in the way of butter than in cheese. Holsteins and Jerseys are preferred for the dairy. Holsteins show the best results, and are fast coming into favor.

D. B. Nighswander, Markham, York: A great deal more is done in butter than in cheese, although many farmers where they are handy to railways are sending their milk to Toronto. For general purposes the Shorthorn grade is as good as any, but for fancy butter making the Jersey leads.

Thos. Sye-, Manvers, Durham: There is but one creamery or dairy establishment in this township, and it did nothing this season from lack of patronage, as people preferred to make their own butter. For all purposes grade Durhams are to be preferred.

J. C. Dunn, Brighton, Northumberland: There is a lively interest taken in the dairy industry in this township especially in the production of cheese. No butter is made in large quantities. Some are using Durham bulls with native cows, with good results. Others are crossing with the Holstein. The best results seem to be with the latter.

James Benson, Ameliasburg, Prince Edward: Dairying is much carried on in this township, particularly the manufacture of cheese, there being only one factory in which butter is made, while there are four cheese factories. Ayrshires, Durhams and grades are chiefly used, and a few Holsteins are being introduced.

George Lott, Richmond, Lennox and Addington: The cheese factories receive nearly all the patronage. The favorite dairy cow is a cross of the Durham and the native stock.

R. J. Dunlop, Pittsburg, Frontenac: The tendency here is to cheese industry. The breeds are all or nearly all mixed grades of the various breeds, but the majority are crosses of the Durham and Ayrshires, while some Ayrshires and Holsteins have been more recently introduced.

R. G. Murphy, Crosby S., Leeds and Grenville: Dairying is very largely entered into, The manufacture of cheese is largely in excess of that of butter. Butter is only made in the fall after the closing of the cheese factories. Ayrshire cattle are most preferred.

A. Harkness, Matilda, Dundas: The dairy industry is flourishing. There are ten cheese factories and but one butter factory in the township, though there is still a good deal of butter made in private dairies. For several years there has been more money in cheese, although the loss of the skim milk is to some a serious objection. Grade Ayrshires and Holsteins are preferred for the dairy.

John McRae, Roxborough, Stormont: Very few are making butter. Nearly all who have six cows or upward send milk to the cheese factories. Grade Ayrshires and Holsteins are in greatest favor.

Harrison Cross, Hawkesbury W., Prescott: Butter is made here to some extent, but not so extensively as cheese. Our milch cows are mostly grades—a cross of Durham or Ayrshire with our Canadian cows. The Durham grades are good milkers, and make more beef than the Ayrshires.

James Wallace, Gower N., Carleton: More than half of the milk here is made into cheese. Butter and cheese will be a little below the average this season owing to the drouth. Our Canadian cow crossed with the Durham is most in use here. There are some Ayrshires, and they are acknowledged to be the best milkers.

J. M. Kennedy, Alice and Fraser, Renfrew: There is no cheese—all butter. Nearly all the cows here are common, except grade Durhams and Ayrshires.

Wm. Paterson, Ramsay, Lanark: Cheese has done rather poorly here; it seems to me that butter is going to have the best of it this year. Durham grades are most in favor, although a few Holsteins are coming in.

James S. Cairnduff, Harvey, Peterborough: Farmers make all their butter at home yet. We had one cheese factory started south of the lake, but those interested could not agree; they blamed each other for watering milk, etc., and broke up. Ayrshires are preferred, but some of the old stock if well cared for will beat the bloods for milk and butter.

Anson Latta, Thurlow, Hastings: Cheese is the principal dairy product; there is not a single creamery in this county. Farmers and stockmen are very much divided in opinion as to breeds or grades for milch cows, some favoring shorthorns, some Holsteins and others a cross between Shorthorn and grades, and others Jerseys. For my own part, I think the choice lies between Shorthorns and Holsteins.

John Hollingworth, Watt, Muskoka: Butter has realised a rather better figure during the last season. We have only the common cow here, and she consequently must be the one in greatest favor.

Wm. Jenkin, Perry, Parry Sound: We have no creameries or cheese factories here, but there is more butter made than is required for local consumption. Some is shipped north and some is sent to Toronto. The grade Shorthorn is most in favor.

ENSILAGE.—The replies to queries regarding ensilage sent out by this Bureau in the spring were few. It could readily be seen that the question had not taken a general hold of the agricultural community, although some of our more progressive farmers are thoroughly alive to the benefits of ensiling fodder. In his bulletin on "Ensilage," issued on August 6, 1888, by the Ontario Department of Agriculture, Prof. Robertson says:

> "A few years ago ‘ensilage generally meant fodder which had been kept in a succulent condition without regard to its sourness or sweetness, its partial rottenness or preservation; it now denotes a product from fodders which may be obtained of uniformly wholesome, sweet and nutritious properties. Careful investigation and experimental work, mainly by the practical farmers of the continent within the past decade, have brought to light the true principles of the system When these are followed with good judgment satisfactory results are almost certain to be realized. Absolutely sweet silage is very rare, but practically sweet, cured or ripened silage is easily and certainly obtainable."

But while a good deal has been talked and written about silage in this province during the past two or three years, very little has been done in the way of constructing silos. Even in this age of agricultural societies and farmers' institutes progress in agriculture is made with a slow and hesitating tread; only a small proportion hear and see, and of these but a trifling percentage will carry out in practice that which commends itself in theory. The very name "silo" has an outlandish sound to the ear of the average Canadian farmer, and so he cautiously waits and watches for ocular proof of success on the part of other experimenters before he leaves the beaten path of agricultural practice. So long as his staple fodder crops of hay, corn and roots continue to give fairly satisfactory results he does not care to attempt "untried schemes," especially such as require some outlay of ready money. However, the discussion of ensiled feed at farmers' institutes and dairymen's conventions has awakened some interest on the subject, and it is probable that a few more experimental silos will be erected shortly in various parts of the province. If it can be shown that the milk product of an acre may be trebled by adopting the system, as has been demonstrated by patrons of creameries in Wisconsin, it will no doubt rise quickly into favor.

FROM THE MAY REPORT.

R. W. Smith, Oxford W., Oxford: Mr. J. C. Harris is the only person who has adopted it. It is not likely to come into general use as the building of a silo deters the farmers.

George Allison, Flamboro' E., Wentworth: I only know of one place as yet where ensiling is practiced and that is at the Oaklands Jersey Farm. The crop used is most corn.

D. B. Nighswander, Markham, York: We never had but one silo in the township and that has been abandoned. The desire for ensilage does not seem to be making much headway.

R. S. Webster, Scott, Ontario: Nothing has been done in ensilage here, more than to read and talk about it. It strikes me that the conditions are so favorable for root crops here that unless those conditions change ensiling will not be popular here.

James Benson, Ameliasburg, Prince Edward: Ensiling is not practiced to a great extent in this locality. Mr. Sprague has adopted the scheme and I am told has succeeded admirably in perfecting it. It may come into more general use, as it seems to be looked upon favorably.

James Collison, Matilda, Dundas: So far we have had no silos, but we had Prof. Robertson at our farmers' institute last winter, and he gave us a cheap plan for a silo; and I have no doubt that farmers will go into it.

P. Madden, Nepean, Carleton: We know very little about ensilage in practice. I know of only one silo in the township.

THE APIARY.

It was evident when the bees were placed in winter quarters in 1887 that the season would be very trying to them. The flow of honey had ceased unusually early in the previous summer, and so had breeding, and as a consequence stores were light in the hives and the occupants were chiefly old bees lacking the vitality to stand a long period of winter seclusion. Losses were reported as general, ranging from 5 to 75 per cent., and probably about one-fourth of the colonies entering the winter died before the time came for their spring flight. The counties of Huron, Bruce and Simcoe seem to have suffered most heavily in the matter of winter losses. In many instances the bees died of actual starvation, owing to the scant supply of summer honey, and poorly ventilated cellars are also ascribed as a cause of loss, although several experienced apiarists express themselves as puzzled to account for the mortality in certain cases. Many of the surviving colonies were weak from long confinement in their winter repositories, and the cold and backward spring thinned them out in several districts. Complaints were also made of losses from dysentery and spring dwindling. Where specially well fed and cared for during the winter, the honey makers came out as a rule very lively, and were soon busily engaged carrying early pollen. The summer proved to be most unfavorable for the apiary. The season was backward and swarming was very light. In many instances there was not sufficient swarming to make up for winter losses. Linden and white clover failed, and there was a general scarcity of nectar in forest and field. But for the patches of Canada thistles, which presented an inviting and valuable foraging ground, many colonies could not have subsisted until buckwheat and fall flowers bloomed. Most of the surplus honey was obtained from buckwheat, and is consequently dark and not of first quality. Some correspondents report a surplus ranging from 10 to 100 pounds, but only one or two touch the higher figure, while scores are close to the latter. A number claim a positive loss, as they extracted but little honey, and fed back a greater value in syrup or sugar. It is safe to say that the average colony netted about one pound of honey where in former years it would generously give four. A few correspondents expressed fear as to the prospects of wintering, as many of the hives are composed almost entirely of old bees. The brightest fact in connection with apiary matters in 1888 is that hardly any disease was reported. The cold weather late in September and early in October put a stop to brood rearing unusually early.

FROM THE MAY REPORT.

John Bishop, Orford, Kent: Bees wintered in cellars have done best, but most of them were well. I suppose that about one-fourth were lost, or, rather, starved to death. They are working well now.

Ila Michener, Sherbrooke, Haldimand: Bees were in good condition when taken from their winter quarters; but nearly all wintered on summer stands packed in chaff or chaff hives, and spring dwindling is general owing to bright days and cool weather. About 8 per cent. were lost for want of proper care in the winter.

John E. Cohoe, Wainfleet, Welland: Bees wintered well until March and April, when over half the bees died. The cause was the drouth last fall. When the honey flow ceased the bees stopped breeding, and they commenced the winter with about all old bees, and they died before they could increase in the spring. At present they are weak in numbers, and not likely to swarm until late.

Jesse Neff, jr., Warwick, Lambton: Bees were very weak when taken from their winter quarters, and were short of stores; consequently the loss was great, running from 10 to 100 per cent. The causes were various, but they suffered most from insufficiency of stores and long confinement, and the extreme cold weather now leaves them very weak and often queenless.

Thomas Kay, Usborne, Huron: The hives are very light. I lost nearly 25 per cent. of my stock, as the supplies were rather light in the fall. They look strong and healthy now.

John Douglass, Arran, Bruce: Bees have wintered fairly well where they went into winter quarters with sufficient provisions for the winter; where otherwise, all the weak swarms have been lost. About half the colonies around here have died, but the remainder are doing well.

Thomas Stokes, Vespra, Simcoe: Bees suffered in consequence of the dry fall. Not getting honey, they did not breed late. As many as 50 per cent. died during last winter from starvation, and as there were many old bees they have suffered from spring dwindling. The present condition of those having plenty of stores is favorable, and they are now increasing fast.

W. W. Revington, Biddulph, Middlesex: I lost no bees during the winter. I have kept bees for the last twenty-four years, but I consider 1887 the poorest year for bees I have known.

George Duncan, West Zorra, Oxford: My bees, when taken from winter quarters, were in very good condition. My loss was only about 4 per cent.; cause, loss of queens and lack of food. Young bees are fast increasing.

R. W. McDonnell, Dumfries N., Waterloo: Bees where properly kept are in good average condition. In my own case I lost about 25 per cent. from faulty management late in the fall and the unsatisfactory condition of my cellar. I have not heard of any losses from honey dew.

R. T. Wood, Etobicoke, York: The condition of bees is very good this spring. Mine wintered outdoors on their summer stands, and they came out strong, in fact, the best I ever had at this time of year. Some have died, however, on account of being queenless. At present my apiary is strong in bees, with plenty of hatching brood.

Robert H. Shipman, Brock, Ontario: Bees were in fair condition when taken from the cellars (April 26). About 33 per cent. have been lost during the winter, and the cause in some cases is hard to assign. Bees are now in good shape considering the backward state of the weather.

Allen Pringle, Richmond, Lennox and Addington: Bees were taken out this spring in rather weak condition. Not including my own stock, about 50 to 75 per cent. of bees in this township were lost in winter and spring. My own loss was about 7 per cent. The general cause of loss was drouth last summer and mismanagement.

L. U. Phelps, Bastard, Leeds and Grenville: About 7 per cent. are dead, and the rest are not in good condition. Bee men are divided in their opinion as to causes, but on the whole I conclude that a scarcity of good food in the fall and a long period in their winter quarters were the chief causes. They are now doing well.

Ferguson Whiteside, Mariposa, Victoria: Bees wintered as well as usual. About one-fourth died, many of them of starvation. Mine winter outdoors, and twelve colonies died out of 105: fifty are prosperous and forty rather weak. They commenced bringing in pollen on the 27th—a week later than last year.

F. Brenton, Thurlow, Hastings: My bees wintered well considering their condition last fall in consequence of want of forage and the necessary consumption of stores before going into winter quarters. I lost about one-fifth from lack of stores and want of queens.

James Kay, Stephenson, Muskoka: Bees are in a better condition than was expected. Of thirty colonies four died, but not for want of food; twenty are in good condition. two are not so good, and four are very weak.

FROM THE AUGUST REPORT.

S. McDonald, Orford, Kent: Swarming was rather late on account of the cold, backward spring. The supply of nectar was scant, and white clover was a total failure. All the honey had to be gathered from a few early plants and basswood. Bees are now thrifty.

E. Heal, Yarmouth, Elgin: There has been but little swarming, but no complaint. This has been the poorest season for nectar I ever knew, as there has been barely enough for the support of the colony. I am sorry to say the surplus will be nothing; in fact, bees will have to be fed for winter or the loss will be great. Bees seem to be in a healthy and thrifty condition, and are now doing nicely, gathering quite a little nectar from the much-condemned Canada thistles, from which the flow this season is grand, and I am sure will save me in winter feed to the extent of $100.

Isaac Overholt, Cayuga S., Haldimand: There has been scarcely any swarming at all, but bees have been healthy. They have made scarcely enough honey to live on, and I do not think they can gather enough to winter on.

F. A. Hutt, Stamford, Welland: The continual dry, cold weather in the spring retarded increase. The supply of nectar seemed to be very limited, and very little surplus honey has been made. The bees are at present in a thrifty condition, and are beginning to work nicely on the buckwheat.

G. A. Deadman, Grey and Morris, Huron: Only strong and united colonies swarmed--say 10 per cent. There is no increase in this section that I am aware of. The supply of nectar has been very meagre. The weather was cold and backward in the early part of the season and too hot and dry in the latter part. Any honey taken from colonies in this section will have to be replaced by an equal amount for next winter's supply; in fact, many colonies will not have enough for their own use. Colonies that ventured to swarm during a portion of July had to be fed to keep them from starving. Bees are in a thrifty condition at present, except some first swarms which could not gather sufficient honey for their own use.

John Tolton, Brant, Bruce: There are general complaints about swarming very little, and I have heard of one case of foul brood. The drouth very materially affected the honey flow, and consequently some of our largest bee-keepers have extracted but little. Bees appear to be thrifty at present.

John O'Hara, Holland, Grey: There was not much swarming at the proper time. There was very little nectar to be had except from basswood and thistles. The surplus will be about 10 lb. per hive, spring count. Bees are thrifty, being numerous in the hive and much inclined to swarm if let.

Thos. Stokes, Vespra, Simcoe: Swarming was quite limited—not more than 40 per cent. The supply of nectar was abundant, but the weather was unpropitious, there being too much high north-west winds. When the weather was favorable honey came in fast. Bees are still swarming and honey is coming in yet. The average yield per colony will be about 50 lb.

Wm. Riddell, Nissouri W., Middlesex: Bees have swarmed but little in this section. Bees have suffered from no complaint but idleness. The supply of nectar was far from abundant. The average surplus per hive will be about five pounds, and some bee-keepers will have no honey at all.

F. Malcolm, Blandford, Oxford: There has not been much swarming. One of the vital questions among bee-keepers is how to prevent swarming. The cold spring was very hard on bees; spring dwindling and queenlessness were the main troubles. The supply of nectar has been anything but abundant. After bees have been put in good winter condition, there may be said to be no surplus. But if sugar is fed instead of honey ten pounds per colony will cover the surplus.

Alex. McFarlane, Norwich S., Oxford: Swarming commenced very late, and they are still at it. No complaint has appeared. Bees are getting rather scarce in the township. We have about 80 swarms on our place. At first it was thought there would be no honey or swarms, but since the rains have come they are busy with honey making from thistles and buckwheat, and are filling up rapidly. Bees are thrifty now, but as yet we have very little surplus honey.

R. F. Holtermann, Brantford, Brant: A few have had much swarming, and bees in consequence gave nothing in honey and sometimes needed feeding; otherwise there was very little increase. I know of no disease in the county. It is the worst season for nectar since I have been in the business. However, since linden was over, thistles have yielded enough for colonies for the winter, and perhaps a surplus of 10 or 15 lb. per colony. The late flow will leave bees in good condition, and enough stores for winter if rightly distributed amongst weak and strong, and not taken away for marketing.

G. B. Allan, Garafraxa W., Wellington: We have had fifteen swarms out of thirty-three stocks. Taking bees all around here, about 10 per cent. have swarmed. There has been no disease among bees and they are in good condition just now, but if any honey is extracted they will have to be fed.

Christian T. Groh, Waterloo, Waterloo: The last two seasons were very poor indeed for bee-keepers. Bees will hardly have increased more than one-half and these were all early swarms, but fortunately there are no diseases. The supply of honey is very limited, so limited, indeed, that many have deemed it prudent to extract no honey and leave all for winter stores.

Wm. M. Kierman, Mulmur, Dufferin: There was scarcely any swarming until late in the season. The bees suffered only from scarcity of nectar. The supply of honey has not been as scarce in twenty years. The average per colony will be only about 10 lb. The bees are in good order where the extractor has not been too freely used.

John McPhedran, Nassagaweya, Halton: Bees have done very badly this season. Many colonies have not swarmed at all. Very little honey has been extracted. The surplus will be about four pounds per colony. Bees are now in good condition, but I fear some will starve if not fed during the winter.

Peter McLeod, Chinguacousy, Peel: Since I kept bees I have not experienced a season like this. Swarms are rare, although otherwise bees are in good condition. This year I have extracted only 20 lb., while last year from the same number of hives I took 500 lb.

L. Weller, Scott, Ontario: I had six swarms from forty-four colonies—two of them this month. Bees appear to be perfectly healthy, and quite willing to light on one sharp end first in defence of their stores. The supply of nectar has been scarce, and the average yield of honey is about 15 lb. per hive.

Platt Hinman, Haldimand, Northumberland: Bees that survived the winter have about doubled the colonies. The supply of nectar was fair in the forest, but scarce in the field. Bees are now thrifty. The surplus will average about 20 lb.

Louis P. Hubbs, Hillier, Prince Edward: Bees did not swarm much, but otherwise there is nothing the matter with them. The supply of nectar has been abundant since the rains. The surplus of honey will be about 10 lb. per colony.

Allen Pringle, Richmond, Lennox: About ten per cent. of the colonies swarmed. They have not suffered from any disease. The yield of nectar is very light, owing to drouth. The average yield of honey will be 5 to 10 lb. per colony. Bees are healthy and fairly thrifty in brooding.

Isaiah Wright, Augusta, Leeds and Grenville: Swarming was a good average, and bees are healthy and full of energy. The supply of nectar was great in the spring, but bees gathered little on account of cold. There was the least flow this summer ever known here.

H. A. Schultz, Sebastopol, Renfrew: Notwithstanding the severe drouth of last summer white clover and alsike bloomed splendidly this spring, and consequently bees that were in good condition swarmed quite as much as other years. There was a goodly supply of nectar well into July, but drouth and a night frost on the 15th of July chilled the linden bloom, so there was no honey from that source this year. The honey yield will be about 30 lb. per colony. We have had some nice rains lately, and the prospects for a good yield of honey are fair indeed.

J. K. Darling, Ramsay, Lanark: There was no swarming when it ought to have been done—at least not more than two to five per cent., but there is too much now when they are not wanted and will have to starve. Feeding will have to be resorted to or plenty of colonies will starve before New Year.

Wm. Cookman, Somerville, Victoria: Very little swarming. Only about one half swarmed, and that but once. Nectar was scarce; white clover was a failure. Fall flowers are better, and there is a fair prospect of going well into winter quarters. There may be a surplus of 10 lb. per colony.

Lewis Marsh, Huntingdon, Hastings: No swarms. There are some cases of foul brood, but this is kept as sly as possible. The surplus up to date is about 5 or 10 lb. per colony. Queens are far below in laying, owing to the scarcity of nectar.

James Kay, Stephenson, Muskoka: There have been no swarms, and no complaint among bees except old age. The supply of nectar was very indifferent, and up the present the surplus honey has averaged about nine pounds per hive. Bees are now thrifty and are making up first rate.

FROM THE NOVEMBER REPORT.

Daniel Stewart, Tilbury, W., Essex: This has been another poor season for the apiary; there was scarcely any surplus honey. However, the bees are going into winter quarters with plenty of stores, and the prospects are hopeful for another year.

E. B. Tole, Harwich, Kent: As it has been a cold season the bees have made scarcely any honey, and many colonies will have to be fed in order to keep them alive during the winter.

Ed. Heal, Yarmouth, Elgin: There is no honey—not even enough for winter food. Bees that are not fed this fall and well cared for will be numbered with the dead in the spring. This has been the worst year for bees for a long period.

Wm. Kindree, Cayuga, N., Haldimand: Bees have done poorly. Very little nectar was to be found in flowers this season. I have fed my bees sugar to winter them upon. I have been in the bee-keeping business for fifty years, but this is the poorest year I have yet seen.

John E. Cohoe, Wainfleet, Welland: The bees in this locality are in very good shape to go into winter quarters. In the fore part of the season, owing to drouth, the bees had hardly enough to live on, but during the latter months they filled up and gave some surplus. The last two years have driven a great many bee-keepers out of the business; they can see no money in it.

Calvin Boyd, Enniskillen, Lambton: The early honey crop was a total failure on account of last year's drouth, which killed the white clover, but owing to late rains bees have done fairly well on buckwheat and fall flowers, and have honey enough for winter, with a surplus of 25 pounds per colony. Colonies generally are in good condition for winter.

G. A. Deadman, Morris and Grey, Huron: Bees are in good condition, although they have been confined to their hives during October owing to the unusually cold weather. Brood rearing was carried on well during the early portion of September, but it must have entirely ceased by October 1st. The supply of nectar has been very meagre during the year. White clover yielded some, basswood very little, and more from Canada thistles, but all told there was very little more than sufficient for daily consumption. If no honey had been extracted, each colony would average about half enough to supply their winter's need; the balance, say 12 pounds, will have to be fed by the bee-keeper, and consequently this represents the loss per colony independent of the time devoted to them. It is likely that more bees will die of starvation this coming winter than for many years past, as it has been the worst season known in this section. If colonies are supplied with good winter stores I see no reason why they should not winter well, and no doubt breeding will begin early in the season.

John Nicholls, Kinloss, Bruce: The season has been a very unfavorable one for bees, of which there are a large number in this neighborhood. The cold, wet spring and the cold, dry summer was hurtful to the yield of honey. Our own bees increased about 75 per cent., with about 12 pounds surplus and enough for winter stores.

George Binnie, Glenelg, Grey: There was no honey flow of any account until August, and bees swarmed scarcely at all; but in August they gathered rapidly, filled up the hives, and in some cases gave a small surplus. They go into winter quarters in good condition, except that some hives are possibly scarce of bees.

Thos. Stokes, Vespra, Simcoe: We are in a rather favored locality for this year. Of 41 colonies in two apiaries in this locality, 2,400 lb. of extracted honey has been secured and the number of colonies doubled, with the bees in first-class condition and an abundance of stores for the winter. We had a good fall flow of honey in the latter part of August and the beginning of September.

James Husband, Metcalfe, Middlesex: The honey produce is a failure. We have taken 175 pounds of comb honey from 180 colonies and fed 500 pounds of sugar.

Martin Emigh, Norwich, N.. Oxford: This has been the poorest season I ever saw for the production of honey. Where buckwheat was plenty some surplus was secured. Bees are generally healthy, with plenty of stores for winter, but the colonies going into winter quarters will consist of very old bees as a rule, owing to no fall breeding.

Archibald Dawson, Oakland, Brant: My bees were lighter in the summer than they were in the spring. Light colored honey is very scarce, but I never had so much buckwheat honey. Bees are in good shape for winter.

George Leversage, Fullarton, Perth: The production of honey has been small this year. One apiarist told me that last year he had 5,000 lb. of honey, whilst this year he will scarcely have 1,000.

Benj. Devitt, Waterloo, Waterloo: Bees have been doing nothing this season, and have to be fed, or half of them will go by spring. I have had bees for twenty-five years, and never saw so poor a honey season.

D. W. Moore, Clinton, Lincoln: Honey is a complete failure. From 300 colonies I have had only about 300 pounds of comb honey and no extracted. Owing to the drouth of last year there was no white clover, and the basswood only lasted a few days. What little honey they did get was from buckwheat and golden rod.

N. V. Watson, Chinguacousy, Peel: There were very few swarms of bees this year. Honey will be scarce on account of the absence of clover and the drouth.

Thos. Ramage, Etobicoke, York: Bees are in good condition, and I believe that with care most of them can be carried over the winter. The surplus of honey, however, will be small—about 10 pounds per colony.

R. Lowey, Athol, Prince Edward: The early part of the season was very poor for honey owing to drouth, and there was very little surplus though plenty of swarms. The fall flow (dark honey) was unusually large, which makes the season's average a good one. Bees are in fine condition; there is plenty of stores and young bees.

Allen Pringle, Richmond, Lennox and Addington: The honey crop this season is a failure owing to the excessive drouth up to about the 20th of July. True, there has been a fair fall flow from buckwheat, but it is mostly required for winter stores.

Thos. Tapping, Barrie, Frontenac: Bees did not swarm in the spring owing to poverty. They had no supplies to start with, but they just managed to hold their own. I did not hear of any loss after being placed on summer stands, but the cry has been "no swarms." I had ten colonies, all new swarms last summer. They did not fill the hives with comb. I had only one swarm this summer; but they have made a large amount of honey, averaging fully 100 pounds to each colony. We use the old-fashioned box-hives.

John Rabb, Emsley S., Leeds and Grenville: Honey from clover and basswood was a complete failure, but some buckwheat honey has been secured. Bees have an abundant supply for winter, and are in good condition at this date.

F. Clare, Longueuil, Prescott: I commenced the season with 14 stocks in good condition. The bees gathered no more honey than just enough for brood rearing till the beginning of August, when the season is about over. Then commenced honey gathering with a vengeance. My colonies increased to 38 by natural swarming, and gave me 900 pounds of extracted honey. besides a few sections of comb honey. I "doubled down" to 35 colonies, and all are apparently in good order for the winter.

Lewis Morton, Goulbourn, Carleton: Bees have not done well. A number of colonies died in the summer, likely from lack of sustenance or on account of the drouth. There was no honey production except from buckwheat after the rain came.

H. A. Schultz, Sebastopol, Renfrew: It appears to me that the dry weather was conducive to the progress of honey making, for I never before in my twelve years of bee-keeping had as heavy a crop of honey as this year, and in quality it is unsurpassed.

J. K. Darling, Ramsay, Lanark: Bees have been a poor investment this year. There has generally been a reduced yield, and some have not taken on an average more than one pound of honey per hive, and it was very dark. There is not one-tenth part of the honey in this section that could be sold at what would be considered a fair price in a good season. Bees are healthy, and if well supplied with stores will come through the winter in good shape.

F. Whiteside, Mariposa, Victoria: Owing to the dry weather bees did not gather enough to winter them. Strong colonies that did not swarm gave 30 pounds of surplus honey, but after feeding weaker colonies an average of only about 8 pounds per hive was netted. The hives were full of bees all summer, but very little swarming was done.

Lewis Marsh, Huntingdon, Hastings: Bees have had the hardest year this season of any which I remember. About nine weeks of very dry weather discouraged them very much. Many colonies had to be wholly or partially fed to prevent starvation. Many colonies refused to nurse brood, dragging it out of the cell, etc. Only a little fall honey was taken this year.

James Kay, Stephenson, Muskoka: I have 17 colonies in good condition, but I had to feed back more pounds of sugar syrup than I took honey from them. There are plenty of late hatched bees. I cannot say whether the late gathered stores are enough to winter upon.

STATISTICS OF
LIVE STOCK AND DAIRY PRODUCTS.

HORSES.

TABLE No. I.—Showing by County Municipalities and groups of Counties the number of Working Horses, Breeding Mares and Unbroken Horses in Ontario in 1888; also the totals for the five years 1884-8.

Counties.	Working Horses.	Breeding Mares.	Unbroken Horses.	Totals.				
				1888.	1887.	1886.	1885.	1884.
Essex	7,154	3,201	4,842	15,197	13,434	14,368	14,112	14,385
Kent	8,574	4,218	6,323	19,115	18,448	18,464	17,184	15,949
Elgin	7,283	2,973	4,354	14,610	14,105	13,849	13,675	13,266
Norfolk	6,197	2,324	3,726	12,247	12,053	11.610	11,491	11,540
Haldimand	5,052	2,187	3,632	10,871	10,625	10,786	10,394	10,841
Welland	4,677	1,826	2,938	9,441	8,874	8,872	8,552	8,135
Totals	38,937	16,729	25,815	81,481	77,539	77,949	75,408	74,116
Lambton	6,966	3,145	4,797	14,908	13,388	13,482	13,127	13,726
Huron	12,130	6,894	8,986	28,010	26,955	26,848	26,478	25,460
Bruce	9,911	4,250	6,019	20,180	19,593	19,549	18,584	17,228
Totals	29,007	14,289	19,802	63,098	59,936	59,879	58,189	56,414
Grey	13,121	5,214	7,275	25,610	24,576	23,803	23,402	21,758
Simcoe	12,395	4,833	7,402	24,630	23,198	23,025	22,652	21,558
Totals	25,516	10,047	14,677	50,240	47,774	46,828	46,054	43,316
Middlesex	13,384	5,938	8,892	28,214	26,786	26,279	26,651	25,066
Oxford	9,395	3,478	5,214	18,087	17,070	17,227	17,149	16,151
Brant	5,267	1,810	2,998	10,075	9,741	9,375	8,824	8,860
Perth	8,850	4,654	5,879	19,383	18,850	17,799	17,906	17,420
Wellington	10,961	4,729	6,577	22,267	21,715	20,828	20,273	19,351
Waterloo	6,656	2,593	3,279	12,528	12,182	12,101	12,066	11,742
Dufferin	4,443	1,781	2,223	8,447	8,185	7,845	8,402	7,734
Totals	58,956	24,983	35,062	119,001	114,529	111,454	111,271	106,324
Lincoln	4,966	1,510	2,620	9,096	8,747	9,195	8,304	8,509
Wentworth	6,582	2,273	3,860	12,715	12,005	11,961	11,698	11,561
Halton	4,566	1,444	2,322	8,332	7,993	8,742	8,125	8,152
Peel	6,614	2,629	3,528	12,771	12,120	11,860	11,378	10,983
York	12,804	4,854	7,113	24,771	24,102	24,069	24,259	22,424
Ontario	8,792	4,143	5,491	18,426	18,536	18,021	18,148	17,791
Durham	7,923	2,320	4,142	14,385	14,662	15,152	14,154	13,916
Northumberland	9,691	2,317	4,610	16,618	16,747	16,684	15,911	15,425
Prince Edward	5,232	2,017	3,566	10,815	10,801	10,520	10,101	9,224
Totals	67,170	23,507	37,252	127,929	125,713	126,204	122,078	117,985
Lennox and Addington	5,472	1,684	2,630	9,786	10,404	10,136	9,870	9,244
Frontenac	5,235	1,621	2,686	9,542	9,199	9,659	8,791	8,155
Leeds and Grenville	10,663	2,973	5,801	19,437	18,934	18,396	17,340	16,518
Dundas	4,149	1,317	2,560	8,026	7,499	7,648	7,691	6,976
Stormont	3,351	1,547	2,288	7,186	6,211	6,665	6,609	5,808
Glengarry	4,049	2,097	2,392	8,538	8,682	8,263	8,293	7,882
Prescott	3,131	1,744	2,129	7,004	6,947	6,532	7,039	6,211
Russell	1,949	1,062	1,436	4,447	4,555	4,351	4,539	4,404
Carleton	7,494	2,469	3,759	13,722	12,952	13,330	12,802	12,819
Renfrew	6,498	1,928	2,997	11,423	10,517	10,438	10,120	9,721
Lanark	5,585	1,948	2,517	10,050	10,000	9,810	9,844	9,151
Totals	57,576	20,390	31,195	109,161	105,900	105,228	102,938	96,889
Victoria	5,973	2,307	4,015	12,295	12,195	11,787	12,249	11,184
Peterborough	5,375	1,915	2,688	9,978	10,351	9,630	10,307	9,015
Haliburton	675	193	119	987	1,010	807	876	793
Hastings	9,288	2,907	5,308	17,503	16,382	15,842	15,616	16,420
Totals	21,311	7,322	12,130	40,763	39,938	38,066	39,048	37,412
Muskoka	1,214	529	521	2,264	2,141	1,983	1.893	1,725
Parry Sound	453	220	200	873	765	838	863	981
Algoma	667	364	377	1,408	1,126	1,220	1,067	791
Totals	2,334	1,113	1,098	4,545	4,032	4,041	3,823	3,497
The Province	300,807	118,380	177,031	596,218	575,361	569,649	558,809	535,953

CATTLE.

TABLE No. II.—Showing by County Municipalities and groups of Counties the number of Oxen, Milch Cows, Store Cattle and young and other Cattle in Ontario in 1888; also the totals for the five years 1884-8.

Counties.	Working Oxen.	Milch Cows.	Store Cattle over two years.	Young and other Cattle.	Totals.				
					1888.	1887.	1886.	1885.	1884.
Essex	248	13,411	7,785	15,171	36,615	34,375	35,344	33,859	33,626
Kent	132	18,755	14,576	23,893	57,356	56,210	59,821	56,699	54,511
Elgin	207	17,586	10,009	19,094	46,896	49,772	50,695	48,744	48,423
Norfolk	536	16,196	5,815	11,528	34,075	34,973	35,686	36,666	34,725
Haldimand ..	166	12,575	5,428	12,321	30,490	34,122	35,614	32,626	31,121
Welland	297	8,917	3,637	8,048	20,899	22,882	22,023	21,548	19,610
Totals....	1,586	87,440	47,250	90,055	226,331	232,334	239,183	230,142	222,016
Lambton	116	17,416	15,618	25,314	58,464	56,974	57,807	55,626	61,236
Huron	411	30,717	29,653	46,147	106,928	105,550	107,815	107,070	104,649
Bruce	872	27,610	19,428	36,556	84,466	82,437	85,009	81,604	80,870
Totals....	1,399	75,743	64,699	108,017	249,858	244,961	250,631	244,300	246,755
Grey	1,626	33,801	21,257	47,377	104,061	101,664	105,979	105,615	105,762
Simcoe	488	24,206	16,595	29,670	70,959	68,493	72,317	73,458	70,702
Totals....	2,114	58,007	37,852	77,047	175,020	170,157	178,296	179,073	176,464
Middlesex ...	29	35,267	26,085	43,858	105,239	107,408	117,397	113,183	113,868
Oxford	160	33,534	11,322	21,214	66,230	69,807	73,528	71,871	70,388
Brant	52	9,976	4,108	9,553	23,689	26,525	28,918	27,307	25,529
Perth	80	25,842	16,655	33,836	76,413	79,616	78,482	79,491	76,413
Wellington ..	350	26,029	17,823	35,254	79,456	79,038	80,476	78,555	78,100
Waterloo	113	14,423	5,392	16,041	35,969	36,711	38,320	36,992	36,655
Dufferin......	278	9,876	7,870	13,418	31,442	30,251	30,808	31,408	30,932
Totals....	1,062	154,947	89,255	173,174	418,438	429,356	447,929	438,807	431,885
Lincoln	125	8,914	3,038	7,718	19,795	21,942	21,451	21,194	19,319
Wentworth ..	200	13,153	5,187	11,542	30,082	32,734	34,127	32,748	31,362
Halton	241	9,999	6,133	9,966	26,339	27,648	29,374	29,488	27,070
Peel	38	12,939	6,953	11,308	31,238	32,646	33,723	31,328	30,351
York	79	20,869	10,089	16,097	47,134	47,952	50,825	51,029	47,425
Ontario	28	16,304	10,070	22,944	49,346	51,171	51,984	50,007	50,911
Durham......	137	12,450	7,833	14,590	35,010	35,462	39,344	36,574	37,264
Northum'land.	286	21,023	6,858	15,370	43,537	43,712	44,368	44,893	42,638
Prince Edw'd.	48	9,781	2,856	5,591	18,276	19,216	21,555	19,041	17,335
Totals....	1,182	125,432	59,017	115,126	300,757	312,483	326,751	316,302	303,675
Lennox & Ad.	282	14,279	5,829	9,939	30,329	35,430	35,137	32,290	29,256
Frontenac....	363	17,039	6,121	10,323	33,846	32,689	36,847	30,682	31,177
Leeds & Gren.	119	47,048	9,644	21,232	78,043	75,092	78,899	75,989	74,680
Dundas	39	17,188	3,744	7,108	28,079	28,317	29,288	28,460	26,512
Stormont	....	15,471	1,884	6,731	24,086	23,546	25,028	26,659	22,842
Glengarry....	18	18,655	2,934	8,953	30,560	28,926	30,764	32,525	30,912
Prescott......	69	12,586	2,243	6,630	21,528	21,097	23,273	23,893	20,819
Russell, ...	48	6,077	2,674	4,888	13,687	14,817	15,955	16,764	15,627
Carleton	....	23,946	8,021	17,374	49,341	47,549	48,817	45,176	45,133
Renfrew	188	17,184	7,787	17,380	42,539	41,245	43,045	44,665	42,468
Lanark	....	18,721	9,943	14,954	43,618	46,522	45,123	43,983	44,789
Totals....	1,126	208,194	60,824	125,512	395,656	395,230	412,176	401,086	384,215
Victoria......	310	12,248	10,956	13,062	36,576	39,339	37,411	40,710	37,014
Peterborough.	430	14,327	6,848	12,466	34,071	34.336	33,716	36,640	32,735
Haliburton ...	310	2,231	1,152	2,119	5,812	6,541	6,301	6,499	6,246
Hastings	1,130	34,482	6,591	18,229	60,432	58,761	60,563	56,089	59,052
Totals....	2,180	63,288	25,547	45,876	136,891	138,977	137,991	139,938	135,047
Muskoka	919	4,529	2,026	5,480	12,954	13,717	12,854	13,651	13,437
Parry Sound .	454	1,841	965	2,296	5,556	4,679	5,113	6,131	6,435
Algoma	550	2,138	1,504	2,985	7,177	6,370	7,249	7,050	5,741
Totals....	1,923	8,508	4,495	10,761	25,687	24,766	25,216	26,832	25,613
The Province.	12,572	781,559	388,939	745,568	1,928,638	1,948,264	2,018,173	1,976,480	1,925,670

SHEEP.

TABLE No. 111.—Showing by County Municipalities and groups of Counties the number of Coarse and Fine Woolled Sheep in Ontario in 1888; also the totals for the five years 1884-8.

Counties.	Coarse woolled.		Fine woolled.		Totals.				
	Over 1 year.	Under 1 year.	Over 1 year.	Under 1 year.	1888.	1887.	1886.	1885.	1884.
Essex	10,120	7,050	2,637	2,078	21,885	22,572	27,526	25,879	24,074
Kent.......	13,158	8,669	3,979	2,645	28,451	25,233	32,469	36,706	37,428
Elgin	13.417	9,893	4,323	3,795	31,428	31,866	30,068	34,854	46,753
Norfolk	7,954	6,079	4,464	3,509	22,006	23,301	27,177	28,875	32,997
Haldimand.	10,421	8,086	2,762	2,082	23,351	27,705	29,945	32,809	38,545
Welland ...	7,050	3,894	5,070	4,293	20,307	22,173	24,053	27,595	25,735
Totals....	62,120	43,671	23,235	18,402	147,428	152,850	171,238	186,718	205,532
Lambton ...	14,881	10,342	4,329	3,692	33,244	30,218	36,344	41,316	55,462
Huron......	31,672	20,589	7,297	5,363	64,921	69,476	79,323	85,677	97,356
Bruce	37,129	21,491	6,212	4,273	69,105	69,765	76,109	83,190	86,176
Totals....	83,682	52,422	17,838	13,328	167,270	169,459	191,776	210,183	238,994
Grey........	49,592	31,600	11,445	7,667	100,304	101,555	111,784	122,431	130,775
Simcoe......	28,608	15,661	12,116	7,255	63,640	66,037	77,621	84,882	82,709
Totals....	78,200	47,261	23,561	14,922	163,944	167,592	189,405	207,313	213,484
Middlesex..	22,086	15,419	5,849	4,039	47,393	46,005	52,192	61,468	72,194
Oxford......	10,322	7,215	4,265	3,549	25,351	26,027	28,923	34,145	40,333
Brant	7,384	5,455	2,322	1,752	16,913	19,936	23,146	26,763	27,352
Perth	21,374	15,590	4,487	3,197	44,648	45,498	54,409	56,217	63,599
Wellington .	31,288	18,822	8,994	6,066	65,170	66,938	75,999	87.412	94,515
Waterloo...	11,213	6,118	7,393	5,092	29,816	30,362	35,674	40,722	40,601
Dufferin....	13,360	7,651	2,753	1,700	25,464	23,824	29,806	36,282	35,204
Totals....	117,027	76,270	36,063	25,395	254,755	258,590	300,149	343,009	373,798
Lincoln.....	5,357	3,506	3,639	3,223	15,725	13,796	18,919	18,241	19,304
Wentworth.	8,788	6,589	3,224	2,615	21,216	21,215	24,987	25,648	28,605
Halton	7,704	5.101	2,066	1,724	16,595	17,376	18,857	21,099	22,795
Peel........	10,605	5,789	2,949	1,755	21,098	22,773	27,849	26,676	29,412
York.......	14,034	9,501	8,692	5,466	37,693	36,939	47,063	51,871	49,438
Ontario	15,649	9,813	8,374	5,721	39,557	32,987	44,775	45,788	50,394
Durham	14,417	8,214	3,770	2,807	29,208	28,390	33,443	34,338	40,159
Northum'd..	15,118	9,974	2,652	2,090	29,834	31,470	32,587	38,785	39,738
Prince Ed..	5,958	3,191	1,757	1,531	12,437	11,504	15,091	15,529	17,638
Totals....	97,630	61,678	37,123	26,932	223,363	216,450	263,571	277,975	297,483
Len. & Ad..	6,604	3,896	3,731	1,760	15,991	23,013	29,038	27,070	27,732
Frontenac.	9,212	5,889	4,171	2,768	22,040	25,580	32,222	34,180	33,051
Leeds & G..	20,782	12,383	7,707	4,124	44,996	47,204	62,925	66,677	75,681
Dundas.....	5,604	2,904	2,347	1,247	12,102	13,801	18,818	20,104	20,691
Stormont...	6,071	2,911	2,197	1,160	12,339	13,619	15,071	16,464	15,501
Glengarry ..	8,479	3,427	4,093	2,106	18,105	20,180	22,333	25,716	25,117
Prescott....	8,154	5,407	1,634	1,107	16,302	15,521	18,113	21,840	21,039
Russell.....	4,666	1,554	1,354	630	8,204	10,543	15,055	14,094	15,655
Carleton ...	19,081	9,982	5,869	3,234	38,166	41,092	46,737	44,035	56,018
Renfrew ...	29,437	14,842	6,255	3,742	54,276	53,615	55,379	57,427	67,827
Lanark.....	24,071	13,158	1,986	1,501	40,716	50,962	54,160	60,078	63,160
Totals....	142,161	76,353	41,344	23,379	283,237	315,130	369,851	387,685	421,472
Victoria ...	14,514	7,442	3,808	2,782	28,546	34,631	34,358	38,624	40,313
Peterboro'..	12,465	7,298	1,668	1,269	22,700	22,366	24,325	31,881	32,378
Haliburton..	2,281	945	690	445	4,361	3,935	4,122	7,262	5,636
Hastings ...	15,043	8,924	7,016	4,455	35,438	36,873	42,859	45,851	43,775
Totals....	44,303	24,609	13,182	8,951	91,045	97,805	105,664	123,618	122,102
Muskoka...	3,782	2,089	1,642	1,009	8,522	9,961	9,914	10,314	10,500
Parry Sound	1,614	525	680	310	3,129	2,966	3,193	3,952	3,557
Algoma.....	2,445	1,624	1,367	915	6,351	5,358	6,188	4,838	3,811
Totals....	7,841	4,238	3,689	2,234	18,002	18,285	19,295	19,104	17,868
The P'vince.	632,964	386,502	196,035	133,543	1,349,044	1,396,161	1,610,949	1,755,605	1,890,733

HOGS.

TABLE No. IV.—Showing by County Municipalities and groups of Counties the number of Hogs (over and under 1 year) in Ontario in 1888; also the totals for the five years 1884-8.

Counties.	1888.		Totals.				
	Over 1 year.	Under 1 year.	1888.	1887.	1886.	1885.	1884.
Essex	11,446	40,150	51,596	43,006	47,424	44,061	43,069
Kent	10,395	44,830	55,225	54,523	50,712	42,515	40,687
Elgin	5,827	26,995	32,822	35,824	32,832	26,450	26,839
Norfolk	4,359	21,064	25,423	27,113	23,003	22,381	23,851
Haldimand	2,208	10,912	13,120	16,070	18,584	16,858	17,736
Welland	1,256	6,742	7,998	9,307	10,803	10,737	11,269
Totals	35,491	150,693	186,184	185,843	183,358	163,002	163,451
Lambton	4,204	14,229	18,433	17,122	19,259	16,944	20,251
Huron	7,198	22,048	29,246	28,631	27,717	28,675	37,151
Bruce	5,052	18,612	23,664	23,647	22,966	24,090	30,119
Totals	16,454	54,889	71,343	69,700	69,942	69,709	87,521
Grey	7,824	25,678	33,502	33,027	36,447	35,275	44,594
Simcoe	8,175	31,175	39,350	37,988	39,746	42,488	47,117
Totals	15,999	56,853	72,852	71,015	76,193	77,763	91,711
Middlesex	5,592	33,876	39,468	38,557	39,874	35,147	39,395
Oxford	4,840	25,103	29,943	30,259	29,580	25,858	27,121
Brant	2,088	11,504	13,592	14,232	12,877	13,223	15,946
Perth	4,515	18,606	23,121	22,553	23,505	21,133	25,201
Wellington	5,481	25,733	31,214	30,894	30,550	29,947	35,532
Waterloo	2,117	12,879	14,996	14,175	15,536	15,507	18,681
Dufferin	3,149	9,924	13,073	11,931	14,080	14,952	16,879
Totals	27,782	137,625	165,407	162,601	166,002	155,767	178,755
Lincoln	1,654	8,273	9,927	11,225	14,135	13,179	12,850
Wentworth	2,600	11,700	14,300	14,413	16,816	15,908	18,388
Halton	1,474	7,515	8,989	9,838	11,027	11,603	12,711
Peel	3,377	14,973	18,350	19,120	20,801	19,866	20,456
York	6,981	29,404	36,385	34,191	38,567	34,850	38,002
Ontario	6,266	18,028	24,294	23,207	26,303	24,894	26,631
Durham	3,497	10,680	14,177	17,452	16,847	17,596	23,116
Northumberland	5,013	12,075	17,088	17,675	18,019	19,106	20,992
Prince Edward	1,237	3,544	4,781	7,557	7,499	6,931	8,372
Totals	32,099	116,192	148,291	154,678	170,014	163,933	181,518
Lennox and Addington	2,263	5,709	7,972	8,168	8,255	8,715	10,179
Frontenac	2,729	5,300	8,029	8,228	8,734	8,229	9,396
Leeds and Grenville	6,829	12,281	19,110	20,761	22,342	20,686	23,085
Dundas	2,932	5,544	8,476	8,477	10,142	9,600	10,332
Stormont	2,312	4,626	6,938	6,678	8,941	7,217	7,829
Glengarry	3,096	5,395	8,491	7,858	9,112	9,484	9,145
Prescott	3,616	5,355	8,971	8,618	10,165	10,130	8,942
Russell	1,539	3,487	5,026	5,823	6,917	7,363	8,015
Carleton	5,285	10,730	16,015	18,690	22,771	19,843	22,071
Renfrew	7,272	8,716	15,988	18,839	15,707	17,077	16,954
Lanark	5,271	8,100	13,371	13,921	14,177	13,810	14,217
Totals	43,144	75,243	118,387	126,061	137,263	132,154	140,165
Victoria	3,880	10,870	14,750	19,561	16,447	17,235	19,044
Peterborough	3,891	10,453	14,344	13,541	13,613	14,449	17,259
Haliburton	568	909	1,477	1,657	1,837	1,504	1,716
Hastings	6,272	12,570	18,842	22.040	18,430	18,230	22,824
Totals	14,611	34,802	49,413	56,799	50,327	51,418	60,843
Muskoka	846	1,875	2,721	2,740	2,419	3,052	4,236
Parry Sound	512	1,139	1,651	1,424	1,837	1,808	3,505
Algoma	716	2,114	2,830	1,956	2,770	3,656	4,453
Totals	2,074	5,128	7,202	6,120	7,026	8,516	12,194
The Province	187,654	631,425	819,079	832,817	860,125	822,262	916,158

POULTRY.

TABLE No. V.—Showing by County Municipalities and groups of Counties the number of Turkeys Geese and other Fowls in Ontario in 1888; also the totals of Poultry for the five years 1884-8.

Counties.	Turkeys	Geese.	Other fowls.	Totals.				
				1888.	1887.	1886.	1885.	1884.
Essex	9,885	12,501	157,172	179,558	182,855	197,515	205,417	161.895
Kent	11,905	9,534	167,873	189,312	202,211	220,571	214.911	168,862
Elgin	10,358	6,215	147,964	164,537	177,374	188,167	157,556	137,544
Norfolk	7,541	6,346	117,248	131,135	148,488	147,204	143,150	137,773
Haldimand	7,088	6,648	92,580	106,316	128,552	135,883	118,227	114,894
Welland	7,837	3,841	79,048	90,726	103,161	118,625	103,616	104,009
Totals	54,614	45,085	761,885	861,584	942,641	1,007,965	942,877	824,977
Lambton	9,789	7,157	142,597	159,543	154,992	176,338	138,032	149,575
Huron	11,227	22,480	294,511	328,218	327,671	337,030	314,705	307,845
Bruce	7,905	14,446	202,686	225,037	221,186	226,689	202,718	213,713
Totals	28,921	44,083	639,794	712,798	703,849	740,057	655,455	671,133
Grey	13,700	21,696	253,279	288,675	288,217	300,057	272,483	269,909
Simcoe	12,148	22,185	225,474	259,807	261,672	279,622	251,944	255,635
Totals	25,848	43,881	478,753	548,482	549,889	579,679	524,427	525.544
Middlesex	23,229	14,764	295,405	333,398	319,395	355,322	322,300	277,276
Oxford	8,252	6,383	178,378	193,013	181,020	199,916	187,528	169,649
Brant	4,986	3,594	77,447	86,027	94,758	97,752	88,487	90,254
Perth	5,472	15,838	206,184	227,494	225,632	237,419	230,743	240,553
Wellington	10,683	16,756	210,676	238,115	241,555	237,418	226,363	229,880
Waterloo	2,856	3,243	119,110	125,209	130,878	139,754	126,247	120,684
Dufferin	7,102	9,694	83,945	100,741	98,847	109,508	102,369	104,562
Totals	62,580	70,272	1,171,145	1,303,997	1,292,085	1,377,089	1,284,037	1,232,858
Lincoln	3,766	3,767	64,838	72,371	86,608	99,790	95,762	82,295
Wentworth	5,181	5,370	88,159	98,710	114,600	123,278	109,908	105,890
Halton	5,000	6,028	65,956	76,984	88,918	98,925	84,716	88,247
Peel	7,877	9,883	103,360	121,120	143,721	147,705	144,392	154,423
York	11,764	16,853	185,292	213,909	226,895	254,970	225,005	213,763
Ontario	6,928	9,367	157,514	173,809	183,451	186,048	173,517	181,040
Durham	8,920	9,840	116,912	135,672	154,384	183,128	149,397	149,598
Northumberland	7,280	7,298	127,726	142,304	156,302	170,013	155,942	162,941
Prince Edward	1,359	3,813	72,947	78,119	105,775	107,840	95,951	95,982
Totals	58,075	72,219	982,704	1,112,998	1,260,654	1,371,697	1,234,590	1,234,179
Lennox & Addingt'n	1,507	2,759	77,534	81,800	99,762	96,573	88,994	90,848
Frontenac	2,793	5,140	66,809	74,742	83,238	105,232	86,289	92,698
Leeds & Grenville	18,604	16,165	173,801	208,570	199,633	248,587	224.576	237,399
Dundas	4,045	5,117	97,150	106,312	110,869	122,663	119,231	113,029
Stormont	3,085	4,179	77,395	84,659	78,427	97,777	83,332	78,906
Glengarry	3,593	4,080	88,080	95,753	90,096	94,807	85,150	87,214
Prescott	3,233	2,405	52,112	57,750	57,799	68,174	66,981	62,073
Russell	4,981	2,416	34,600	41,997	50,635	55,892	54,361	52,584
Carleton	17,764	9,359	133,387	160,510	154,476	228,579	182,810	195,894
Renfrew	10,473	9,787	92,173	112,433	113,875	119,136	103,005	105,805
Lanark	9,754	8,836	96,111	114,701	143,907	156,581	153,172	149,764
Totals	79,832	70,243	989,152	1,139,227	1,182,717	1,394,001	1,247,901	1,266,214
Victoria	8,652	9,830	110,974	129,456	141,419	129,479	114,436	127,845
Peterborough	6,431	9,274	113,244	128,949	127,524	124,645	119,991	118,209
Haliburton	456	901	10,592	11,949	14,701	13,554	13,199	12,747
Hastings	7,453	9,219	135,137	151,809	161,118	166,112	142,646	154,462
Totals	22,992	29,224	369,947	422,163	444,762	433,790	390,272	413,263
Muskoka	1,643	1,420	26,237	29,300	33,461	32,175	24,344	32,244
Parry Sound	314	149	12,598	13,061	9,964	12,429	11,666	19,370
Algoma	1,200	1,250	18,054	20,504	18,339	20,033	21,236	17,824
Totals	3,157	2,819	56,889	62,865	61,764	64,637	57,246	69,438
The Province	336,019	377,826	5,450,269	6,164,114	6,438,361	6,968,915	6,336,805	6,237,600

RATIOS OF LIVE STOCK.

TABLE No. VI.—Showing by County Municipalities and groups of Counties the number and value of Live Stock in Ontario in the years 1887 and 1888 per 1,000 acres of cleared land.

Counties.	Horses.		Cattle.		Sheep.		Hogs.		Poultry.		Value of Live Stock.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
											$	$
Essex	78.1	72.2	188.1	184.7	112.4	121.3	265.0	231.1	922.3	982.6	11,906	11,370
Kent	67.4	65.3	202.4	198.9	100.4	89.3	194.9	192.9	668.0	715.6	11,361	10,635
Elgin	54.2	54.2	173.9	191.4	116.5	122.6	121.7	137.8	610.1	672.2	9,524	9,925
Norfolk	54.0	53.0	150.1	153.7	96.9	102.4	112.0	119.1	577.7	652.4	8,358	8,297
Haldimand	54.7	53.7	153.5	172.4	117.6	140.0	66.1	81.2	535.2	649.7	8,679	9,283
Welland	58.6	55.7	129.8	143.7	126.1	139.3	49.7	58.5	563.4	647.9	8,717	8,970
Group	61.1	59.0	169.6	176.9	110.5	116.4	139.5	141.5	645.6	717.7	9,840	9,788
Lambton	52.8	52.8	207.1	224.7	117.8	119.2	65.3	68.7	565.1	611.3	10,023	10,635
Huron	52.1	51.3	199.0	200.7	120.8	132.1	54.4	54.4	610.8	623.0	10,223	10,270
Bruce	46.0	45.7	192.6	192.4	157.5	162.9	53.9	55.2	513.0	516.3	9.067	9,305
Group	50.1	49.6	198.6	202.8	132.9	140.3	56.7	57.8	566.5	582.7	9,775	10,004
Grey	47.1	45.8	191.4	189.5	184.5	189.3	61.6	61.6	531.0	537.2	8,791	8,969
Simcoe	53.0	51.1	152 6	150.9	136.9	145.5	84.6	83.7	558.9	576.6	8,933	8,900
Group	49.8	48.2	173.5	171.8	162.6	169.2	72.2	71.7	543.9	555.2	8,856	8,937
Middlesex	54.0	52.1	201.4	208.7	90.7	89.4	75.5	74.9	637,9	620.7	10,256	11,550
Oxford	53.4	51.1	195.4	209.0	74.8	77.9	88.4	90.6	569.6	541.9	10,107	10,526
Brant	59.6	57.8	140.2	157.5	100.1	118.4	80.5	84.5	509.2	562.6	9,188	10,170
Perth	54.4	53.2	214.3	224,8	125.2	128.5	64.8	63.7	638.0	637.1	10,558	10,980
Wellington	51.2	50.2	182.8	182.9	150.0	154.9	71.8	71.5	547.9	558.9	9,423	9,898
Waterloo	54.2	52.3	155.6	157.5	129.0	130.2	64.9	60.8	541.8	561.4	9,357	9,485
Dufferin	46.4	45.7	172.8	168.9	140.0	133.0	71.9	66.6	553.8	551.8	8,248	7,858
Group	53.3	51.7	187.2	193.8	114.0	116.7	74.0	73.4	583.5	583.2	9,783	10,362
Lincoln	61.1	58.9	133.0	147.8	105.6	92.9	66.7	75.6	486.1	583.2	9,145	9,399
Wentworth	61.7	58.3	146.0	158.9	103.0	103.0	69.4	70.0	479.1	556.3	9,818	11,219
Halton	50.6	48.1	159.9	166.3	100.7	104.5	54.6	59.2	467.2	534.8	8,732	9,339
Peel	53.2	51.8	130.1	139.6	87.9	97.4	76.4	81.8	504.4	614.7	9,097	9,585
York	60.6	58.2	115.3	115.9	92.2	89.3	89.0	82.6	523.2	548.3	9,898	9,419
Ontario	55.0	55.9	147.3	154.4	118.1	99.5	72.5	70.0	518.9	553.5	9,839	10,572
Durham	50.7	54.0	123.4	130.7	103.0	104.6	50.0	64.3	478.2	568.8	8,127	8,602
Northumberland	53.5	53.7	140.1	140.0	96.0	100.8	55.0	56.6	457.8	500.8	7,990	8,233
Prince Edward	59.1	59.0	99.9	105.1	68.0	62.9	26.1	41.3	427.1	578.3	7,293	7,742
Group	56.1	55.5	131.8	137.9	97.9	95.5	65.0	68.3	487.9	556.2	8,975	9,365
Lennox & Add	48.7	52.3	150.9	178.0	79.5	115.6	39.7	41.0	406.9	501.3	7,362	8,079
Frontenac	45.1	45.3	160.1	161.1	104.2	126.1	38.0	40.6	353.5	410.3	7,511	7,877
Leeds & Grenville	47.1	46.4	189.3	184.0	109.1	115.6	46.4	50.9	505.9	489.1	8,000	8,203
Dundas	60.4	54.4	211.3	205.5	91.1	100.1	63.8	61.5	799.9	804.7	9,780	9,787
Stormont	61.9	54.2	207.5	205.5	106.3	118.8	59.8	58.3	729.5	684.3	9,897	9,872
Glengarry	60.2	62.0	215.3	206.4	127.5	144.0	59.8	56.1	674.6	642.9	10,058	10,029
Prescott	54.0	54.0	166.0	164.0	125.7	120.7	69.2	67.0	445.4	449.3	8,366	8,434
Russell	59.0	59.4	181.4	193.2	108.8	137.5	66.6	75.9	556.8	660.3	9,348	9,516
Carleton	49.8	47.7	178.9	175.0	138.4	151.2	58.1	68.8	582.1	568.5	8,938	9,060
Renfrew	44.0	42.9	163.8	168.4	208.9	218.9	61.5	76.9	432.8	464.9	7,632	8,064
Lanark	34.7	35.2	150,6	163.6	140.6	179.2	46.2	49.0	396.0	506.1	6,282	7,037
Group	48.6	47.9	176.2	178.9	126.1	142.7	52.7	57.7	507,2	535.4	8,148	8,462
Victoria	51.4	52 1	153.0	168.1	119.4	147.9	61.7	83.6	541.5	604.1	8,518	8,912
Peterborough	46.4	48 3	158.4	160.3	105.5	104.4	66.7	63.2	599.5	595.4	7,670	8,069
Haliburton	35.2	36.1	207.5	233.6	155.7	140.5	52.7	59.2	426.6	524.9	7,053	8,353
Hastings	50.8	51.1	175.4	183.4	102.9	115.1	54.7	68.8	440.7	502.9	8,738	8,461
Group	49.3	50.1	165.6	174.4	110 1	122.8	59.8	71.3	510.7	558.3	8,339	8,484
Muskoka	43.5	42.0	248.8	269.1	163.7	195.4	52.3	53.8	562.7	656.5	8,791	10,152
Parry Sound	29.5	31.7	187.4	193.6	105.6	122.7	55.7	58.9	440.6	412.3	6,754	8,587
Algoma	38.9	33.0	198.3	187.1	175.5	157.2	78.2	57.4	566.7	537.9	8,058	7,606
Group	38.6	36.9	217.9	226.7	152,7	167.4	61.1	56.0	533.2	565.5	8,054	9.011
The Province	52.7	51.8	170.6	175.4	119.3	125.7	72.4	75.0	545.1	579.6	9,095	9,399

WOOL.

TABLE No. VII.—Showing by County Municipalities and groups of Counties the clip of Coarse Wool in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average number of pounds per fleece.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Fleeces.	Pounds.	Lb. per fleece.	Fleeces.	Pounds.	Lb. per fleece.	Fleeces.	Pounds.	Lb. per fleece.
Essex	10,268	62,181	6.06	10,563	62,748	5.94	12,111	68,585	5.66
Kent	13,116	79,924	6.09	10,293	61,685	5.99	17,299	99,652	5.71
Elgin	13,933	83,297	5.98	14,821	85,834	5.79	19,626	111,038	5.66
Norfolk	8,205	46,523	5.67	9,548	52,882	5.54	13,431	72,502	5.40
Haldimand	10,429	64,159	6.15	12,539	78,563	6.27	15,569	95,217	6.12
Welland	7,320	37,891	5.18	8,655	46,381	5.36	10,125	53,447	5.28
Totals	63,271	373,975	5.91	66,419	388,093	5.81	88,161	500,441	5.68
Lambton	15,214	91,143	5.99	14,546	90,179	6.20	22,472	131,396	5.85
Huron	32,603	186,734	5.73	32,815	189,995	5.79	44,267	251,436	5.68
Bruce	38,440	219,480	5.71	34,898	201,972	5.79	42,167	238,886	5.67
Totals	86,257	497,357	5.77	82,259	482,146	5.86	108,906	621,718	5.71
Grey	51,289	288,959	5.63	50,593	288,992	5.71	61,597	339,323	5.51
Simcoe	29,366	166,467	5.67	29.633	199,833	5.73	38,062	211,378	5.55
Totals	80,655	455,426	5.65	80,226	458,825	5.72	99,659	550,701	5.53
Middlesex	22,316	137,454	6.16	21,079	132,234	6,27	34,407	204,472	5.94
Oxford	10,679	62,371	5.84	10,555	63,136	5.91	17,540	101,699	5.80
Brant	7,500	44,812	5.97	8,454	48,298	5.71	12,282	71,198	5.80
Perth	21,771	123,475	5.67	21,657	127,097	5.87	29,602	166,612	5.63
Wellington	32,760	187,304	5.72	31,686	186,066	5.87	41,815	240,026	5.74
Waterloo	11,587	63,406	5.47	11,833	64,686	5.47	17,979	98,929	5.50
Dufferin	13,571	75,534	5.57	11,932	69,807	5.85	16,212	90,682	5.59
Totals	120,184	694,356	5.78	117,196	691,324	5.90	169,837	973,618	5.73
Lincoln	5,463	27,637	5.06	4,814	25,700	5.34	7,840	40,911	5.22
Wentworth	9,491	57,076	6.01	9,182	56,090	6.11	13,004	74,688	5.74
Halton	7,837	47,596	6.07	8,155	51,839	6.36	10,676	67,092	6.28
Peel	10,853	71,734	6.61	10,793	76,944	7.13	14,314	95,477	6.67
York	14,754	94,402	6.40	14,851	94,287	6.35	22,421	138,289	6.17
Ontario	15,989	97,844	6.12	13,902	89,503	6.44	21,361	134,168	6.28
Durham	15,040	85,413	5.68	15,794	89,155	5.64	19,504	112,701	5.78
Northumberland	15,509	91,760	5.92	16,764	98,908	5.90	19.254	110,065	5.72
Prince Edward	6,108	30,539	5.00	5,284	27,532	5.21	7,554	40,292	5.33
Totals	101,044	604,001	5.98	99,539	609,958	6.13	135,928	813,683	5.99
Lennox and Addington	7,076	39,486	5.58	10,350	55,729	5.40	12,819	67,009	5.23
Frontenac	9,352	50,549	5.41	11,171	59,539	5.33	16,110	79,635	4.94
Leeds and Grenville	21,064	101,494	4.82	23,063	111,959	4.85	31,655	152,446	4.82
Dundas	5,807	29,523	5.08	6,389	33,176	5.19	9,381	46,623	4.97
Stormont	6,497	34,564	5.32	7,186	40,617	5.65	8,097	41,278	5.10
Glengarry	8,542	39,310	4.60	8,861	41,620	4.70	12,791	58,627	4.58
Prescott	8,350	41,627	4.99	6,170	30,314	4.91	8,970	42,546	4.74
Russell	4,610	21,377	4.64	4,811	23,707	4.93	6,760	31,664	4.68
Carleton	19,765	101,163	5.12	19,968	106,547	5.34	25,327	126,803	5.01
Renfrew	29,980	138,821	4.63	28,333	128,757	4.54	31,477	139,677	4.44
Lanark	24,481	117,837	4.81	28,373	137,141	4.83	31,696	151,155	4.77
Totals	145,524	715,751	4.92	154,675	769,106	4.97	195,083	937,463	4.81
Victoria	14,754	82,889	5.62	16.593	99,024	5.97	19,070	105,664	5.54
Peterborough	12,802	68,094	5.32	11,838	63,799	5.39	15,913	84,451	5.31
Haliburton	2,323	11,242	4.84	2,218	10,940	4.93	2,396	11,632	4.85
Hastings	15,559	78,553	5.05	17,525	86,226	4.92	21,336	104,592	4.90
Totals	45,438	240,778	5.30	48,174	259.989	5.40	58,715	306,339	5.22
Muskoka	3,960	21,891	5.53	4,542	25,171	5.54	4,440	24,126	5.43
Parry Sound	1,649	9,554	5.79	1,149	6,706	5.84	1,371	8,098	5.91
Algoma	2,530	15,655	6.19	2,309	14,336	6.21	2,212	13,339	6.03
Totals	8,139	47,100	5.79	8,000	46,213	5.78	8,023	45,563	5.68
The Province	650.512	3,628,744	5.58	656,488	3,705,654	5.64	864,312	4,749,526	5.5

WOOL.

TABLE No. VIII.—Showing by County Municipalities and groups of Counties the clip of Fine Wool in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average number of pounds per fleece.

Counties.	1888.			1887.			Yearly average for the seven years 1882-8.		
	Fleeces.	Pounds.	Lb. per fleece.	Fleeces.	Pounds.	Lb. per fleece.	Fleeces.	Pounds.	Lb. per fleece.
Essex	2,698	14,974	5.55	3,215	16,236	5.05	2,475	12,754	5.15
Kent	4,003	22,019	5.50	3,878	21,622	5.58	3,923	20,532	5.23
Elgin	4,467	31,028	6.95	3,421	19,897	5.82	3,679	20,697	5.63
Norfolk	4,526	21,482	4.75	3,963	19,540	4.93	4,331	20,700	4.78
Haldimand	2,879	14,753	5.12	3,694	18,268	4.95	3,587	17,691	4.93
Welland	5,234	24,774	4.73	5,330	25,566	4.80	4,759	21,877	4.60
Totals	23,807	129,030	5.42	23,501	121,129	5.15	22,754	114,251	5.02
Lambton	4,289	25,246	5.89	3,285	18,331	5.58	3,690	20,033	5.43
Huron	7,490	42,345	5.65	7,290	40,302	5.53	6,446	34,706	5.38
Bruce	6,304	34,749	5.51	6,513	34,850	5.35	6,571	35,523	5.41
Totals	18,083	102,340	5.66	17,088	93,483	5.47	16,707	90,262	5.40
Grey	11,687	62,111	5.31	9,483	49,732	5.24	9,531	49,708	5.22
Simcoe	12,126	63,371	5.23	10,368	52,138	5.03	8,692	44,566	5.13
Totals	23,813	125,482	5.27	19,851	191,870	5.13	18,223	94,274	5.17
Middlesex	6,018	35,031	5.82	4,655	26,544	5.70	5,214	29,316	5.62
Oxford	4,284	22,544	5.26	4,622	23,603	5.11	4,203	22,200	5.28
Brant	2,383	12,529	5.26	2,612	12,279	4.70	3,015	15,857	5.26
Perth	4,627	24,920	5.39	4,617	24,851	5.38	4,413	23,797	5.39
Wellington	9,501	49,143	5.17	7,830	39,052	4.99	7,968	41,010	5.15
Waterloo	7,567	37,429	4.95	7,010	36,224	5.17	5,571	27,733	4.98
Dufferin	2,721	14,702	5.40	3,142	16,981	5.40	2,502	13,640	5.45
Totals	37,101	196,298	5.29	34,488	179,534	5.21	32,886	173,553	5.28
Lincoln	3,682	17,258	4.69	3,528	17,896	5.07	3,137	15,401	4.91
Wentworth	3,280	17,846	5.44	2,643	13,755	5.20	2,949	15,046	5.10
Halton	2,099	12,066	5.75	1,965	11,322	5.76	1,815	10,055	5.54
Peel	3,072	16,768	5.46	3,076	17,360	5.64	2,263	12,448	5.50
York	8,841	45,968	5.20	8,177	43,463	5.32	7,179	38,298	5.33
Ontario	8,411	46,910	5.58	6,879	40,140	5.84	7,048	39,415	5.59
Durham	3,774	21,836	5.79	2,722	15,511	5.70	2,694	15,340	5.69
Northumberland	2,684	14,643	5.46	3,080	16,661	5.41	2,785	14,990	5.38
Prince Edward	2,135	10,609	4.97	1,845	9,666	5.24	2,769	13,951	5.04
Totals	37,978	203,904	5.37	33,915	185,774	5.48	32,639	174,944	5.36
Lennox and Addington	3,786	20,776	5.49	3,626	18,612	5.14	3,674	18,716	5.09
Frontenac	4,308	21,261	4.94	4,488	21,582	4.81	4,018	19,929	4.96
Leeds and Grenville	7,896	36,619	4.64	6,943	33,356	4.80	8,622	42,088	4.88
Dundas	2,470	12,428	5.03	2,578	13,141	5.10	2,703	13,153	4.87
Stormont	2,302	12,212	5.30	2,034	10,902	5.36	2,517	12,881	5.12
Glengarry	4,017	19,889	4.95	3,692	17,879	4.84	3,983	18,980	4.77
Prescott	1,637	9,374	5.73	2,023	11,093	5.48	2,453	12,315	5.02
Russell	1,372	7,343	5.35	1,633	7,592	4.65	1,676	8,288	4.95
Carleton	6,027	31,972	5.30	4,252	21,814	5.13	5,401	26,981	5.00
Renfrew	6,704	32,683	4.88	5,217	26,051	4.99	6,203	28,124	4.53
Lanark	2,069	10,249	4.95	2,885	15,009	5.20	3,343	15,755	4.71
Totals	42,588	214,806	5.04	39,371	197,061	5.01	44,593	217,210	4.87
Victoria	4,105	22,170	5.40	4,480	24,445	5.46	3,754	20,551	5.47
Peterborough	1,828	9,197	5.03	1,490	6,733	4.52	2,027	9,754	4.81
Haliburton	695	3,538	5.09	516	2,630	5.10	1,052	4,541	4.32
Hastings	7,271	35,241	4.85	4,998	25,485	5.10	6,421	30,142	4.69
Totals	13,899	70,146	5.05	11,484	59,293	5.16	13,254	64,988	4.90
Muskoka	1,694	8,562	5.05	1,378	6,786	4.92	1,378	7,015	5.09
Parry Sound	680	4,076	5.99	554	3,026	5.46	609	3,260	5.35
Algoma	1,367	7,639	5.59	872	4,639	5.32	687	3,650	5.31
Totals	3,741	20,277	5.42	2,804	14,451	5.15	2,674	13,925	5.21
The Province	201,010	1,062,283	5.28	182,502	952,595	5.22	183,730	943,407	5.13

WOOL.

TABLE No. IX.—Showing by County Municipalities and groups of Counties the total Clip of Wool in Ontario in the seven years 1882-8 with the yearly average for the seven years.

Counties.	1888.	1887.	1886.	1885.	1884.	1883.	1882.	Yearly average 1882-8.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Essex	77,155	78,984	95,746	85,558	87,551	79,258	65,120	81,339
Kent...........	101,943	83,307	113,151	134,948	127,534	149,459	130,945	120,184
Elgin	114,325	105,731	96,696	115,548	163,734	162,154	163,959	131.735
Norfolk	68,005	72,422	87,420	94,031	109,006	117,999	103,529	93,202
Haldimand.....	78,912	96,831	109,863	117,758	145,337	128,978	112,675	112,908
Welland	62,665	71,947	74,731	87,606	84,198	78,385	67,735	75,324
Totals......	503,005	509,222	577,607	635,449	717,360	716,233	643,963	614,692
Lambton	116,389	108,510	127,795	147,756	201,224	183,975	174,356	151,429
Huron	229,079	230,297	264,712	301,663	334,812	346,859	295,571	286,142
Bruce	254,229	236,822	270,407	294,646	305,715	309,938	249,109	274.409
Totals......	599,697	575,629	662,914	744,065	841,751	840,772	719,036	711,980
Grey	351,070	338,724	384,923	436,381	445,835	413,773	352.510	389,031
Simcoe	229,838	221,971	273,941	313,686	292,498	269,319	190,354	255,944
Totals......	580,908	560,695	658,864	750,067	738,333	683,092	542,864	644,975
Middlesex	172,485	158,778	198,638	223,630	267,475	313,559	301,953	233,788
Oxford	84,915	86.739	99,628	118,750	142,939	166,579	167,748	123,899
Brant....	57,341	60,577	77,647	95,119	98,163	110,429	110,105	87,055
Perth	148,395	151,948	180,785	192.723	215,322	232,718	210.972	190,409
Wellington.....	236,447	225,118	271,628	308,846	339,207	328,514	257,494	281,036
Waterloo	100,835	100,910	120,501	138,478	144,760	141,082	140,064	126,662
Dufferin	90,236	86,788	102,066	120,581	122,155	112,282	96,146	104,322
Totals	890,654	870,858	1,050,893	1,198,127	1,330,021	1,405,163	1,284,482	1,147,171
Lincoln	44,895	43,596	59,032	58.398	61,256	65,715	61,294	56,312
Wentworth.....	74,922	69,845	88,046	89,092	101,877	109,327	95,030	89,734
Halton	59,662	63,161	72,061	82.384	91,559	87,700	83,501	77,147
Peel	88,502	94,304	111,556	108,831	120,066	115,490	116,724	107,925
York	140,370	137,750	181,695	199,834	182,368	203,530	190,562	176,587
Ontario	144,754	129,643	177,162	181,491	205,297	203,983	172,750	173,583
Durham	107,249	104,666	126,137	132,495	161,761	136,700	127,279	128,041
Northumberland	106,403	115,569	118,622	138,888	140,612	134,165	121,130	125,055
Prince Edward.	41,148	37,198	54,144	53,113	57,840	64,484	71,773	54,243
Totals	807,905	795,732	988,455	1,044,526	1,122,636	1,121,094	1,040,043	988,627
Lennox & Add'n	60,262	74,371	100,004	87,790	92,985	96,828	87,837	85,725
Frontenac	71,810	81,121	101,940	108,356	99,604	119,563	114,544	99,564
Leeds & Gren ..	138,113	145,315	193,986	211,051	226,558	240,986	205,730	194,534
Dundas	41,951	46,317	58,765	63,739	62,502	82,666	62,493	59,776
Stormont.......	46,776	51,519	51,633	55,362	53,767	64,945	55,116	54,159
Glengarry......	59,199	59,499	78,121	84,447	79,512	92,810	89,660	77,607
Prescott........	51,001	41,407	56,412	69,173	54,863	58,719	52,450	54,861
Russell.........	28,720	31,299	47,002	44,335	42,091	52,424	33,796	39,952
Carleton	133,135	128,361	160,000	143,288	179,495	174,527	157,677	153,784
Renfrew	171,504	154,808	169,544	168,906	191,129	184,777	133,942	167,801
Lanark.........	128,086	152,150	169,275	188,319	190,580	196,318	143,644	166,910
Totals......	930,557	966,167	1,186,682	1,224,766	1,273,086	1,364,563	1,136,889	1,154,673
Victoria........	105,059	123,469	120,512	135,490	145,383	142,735	110,861	126,215
Peterborough...	77,291	70,532	87,740	111,826	112,680	108,474	90,888	94,205
Haliburton	14,789	13,570	12,800	23,312	18,704	15,799	14,248	16,173
Hastings	113,794	111,711	135,431	147,986	146,873	154,242	133,094	134,734
Totals......	310,924	319,282	356,483	418,614	423,640	421,250	349,091	371,327
Muskoka	30,453	31,957	33,094	37,179	35,747	31,206	18,354	31,141
Parry Sound ...	13.630	9,732	11,871	14,883	13,850	10,320	5,224	11,358
Algoma	23,294	18,975	21,004	19,190	15,494	14,725	6,239	16,989
Totals	67,377	60,664	65,969	71,252	65,091	56,251	29,817	59,488
The Province...	4,691,027	4,658,249	5,547,867	6,086,866	6,511,918	6,608,418	5,746,185	5,692,933

FACTORY CHEESE.

TABLE X.—Showing by County Municipalities and groups of Counties the quantity and value of cheese made at 557 factories in Ontario in 1888, the average dates of opening and closing, and the total number of factories reported in operation.

Counties.	No. of Factories.			Quantity of—		Value of cheese made.	Milk to make 1 lb. of cheese.	Value of cheese per 100 lb.	Average date of—	
	Rept'd in operation.		Returns made.	Milk used.	Cheese made.				Opening	Closing.
	1887	1888								
				lb.	lb.	$ c.	lb.	$ c.		
Essex	1	1	1	1,640,440	157,624	14,865 92	10.41	9 43	May 1	Oct. 31
Kent........ ...	13	12	8	5,456,402	508,170	47,268 85	10.74	9 30	″ 18	″ 12
Elgin	21	26	18	19,430,686	1,830,864	173,611 67	10.61	9 48	April 29	Nov. 3
Norfolk	22	20	15	12,097,467	1,147,281	106,289 26	10.54	9 26	May 2	″ 6
Haldimand	12	14	7	4,812,207	456,877	42,840 37	10.53	9 38	″ 12	Oct. 21
Welland	6	4	3	2,075,806	195,002	17,454 62	10.65	8 95	″ 12	″ 16
Totals......	75	77	52	45,513,008	4,295,818	402,330 69	10.59	9 37	May 6	Oct. 28
Lambton	20	17	14	12,857,088	1,189,569	110,056 84	10.81	9 25	May 19	Oct. 12
Huron	15	15	14	16,462,583	1,521,314	142,033 76	10.82	9 34	″ 14	″ 15
Bruce	19	22	21	19,060,030	1,769,056	162,968 95	10.77	9 21	″ 17	″ 16
Totals......	54	54	49	48,379,701	4,479,939	415,059 55	10.80	9 26	May 17	Oct. 15
Grey	9	10	9	6,306,655	591,614	52,808 03	10.66	8 93	May 16	Oct. 9
Simcoe	5	6	4	1,538,443	145,833	13,863 88	10.55	9 51	″ 31	″ 4
Totals	14	16	13	7,845,098	737,447	66,671 91	10.64	9 04	May 20	Oct. 8
Middlesex	39	41	34	45,356,604	4,211,788	401,095 24	10.77	9 52	May 2	Nov. 1
Oxford	43	45	36	65,186,566	6,148,124	584,112 44	10.60	9 50	April 20	″ 10
Brant	4	6	5	4,437,139	418,817	39,162 38	10.59	9 35	, 28	Oct. 29
Perth	23	22	20	28,996,646	2,694,223	257,781 92	10.76	9 57	May 8	″ 22
Wellington	11	12	11	11,318,325	1,052,500	95,400 33	10.75	9 06	″ 15	″ 11
Waterloo	7	7	5	2,869,123	262,110	24,607 62	10.95	9 39	″ 21	″ 6
Dufferin........	4	3	2	864,890	80,855	7,024 32	10.70	8 69	″ 30	Sept. 30
Totals	131	136	113	159,029,293	14,868,417	1,409,184 25	10.70	9 48	May 2	Oct. 29
Lincoln	5	4	2	1,367,994	125,047	11,787 00	10.94	9 43	May 4	Oct. 20
Wentworth	3	3	1	1,140,000	108,000	10,500 00	10.56	9 72	″ 1	″ 31
Peel	1	1	1	340,968	31,000	3,100 00	11.00	10 00	″ 15	″ 1
York	3	3	2	297,848	28,256	2,825 60	10.54	10 00	June 7	Sept. 21
Ontario	5	3	1	129,700	11,608	1,171 12	11.17	10 09	May 28	Oct. 13
Durham	6	6	6	2,705,983	252,408	22,653 50	10.72	8 97	″ 13	″ 9
Northumberland	32	33	24	19,383,842	1,858,116	167,070 28	10.43	8 99	″ 2	″ 29
Prince Edward	17	16	13	9,595,753	933,407	84,910 95	10.28	9 10	″ 2	″ 17
Totals	72	69	50	34,962,088	3,347,842	304,018 45	10.44	9 08	May 6	Oct. 20
Lennox & Add'n	19	17	17	18,085,794	1,769,723	163,067 61	10.22	9 21	May 2	Oct. 26
Frontenac	33	29	13	6,542,188	635,579	58,026 48	10.29	9 13	″ 3	″ 21
Leeds & Gren ..	103	94	70	65,670,930	6,315,164	571,965 91	10.40	9 06	April 26	″ 28
Dundas	26	32	27	21,795,203	2,107,708	191,508 69	10.34	9 09	May 1	″ 27
Stormont	28	25	18	12,953,044	1,253,794	113,643 31	10.33	9 06	″ 4	″ 21
Glengarry	30	40	29	17,083,834	1,656,967	147,334 31	10.31	8 89	″ 10	″ 20
Prescott........	24	28	12	7,206,877	708,742	63,482 61	10.17	8 96	″ 4	″ 17
Russell	6	6	3	1,409,880	138,121	12,689 21	10.21	9 19	″ 5	″ 15
Carleton	11	12	9	7,109,387	680,719	61,241 28	10.44	9 00	″ 6	″ 20
Renfrew	4	3	3	1,320,258	127,956	11,795 42	10.32	9 22	″ 17	″ 7
Lanark	23	22	17	13,481,017	1,303,843	118,031 48	10.34	9 05	″ 4	″ 19
Totals......	307	308	218	172,658,412	16,698,316	1,512,786 31	10.34	9 06	May 2	Oct. 23
Victoria ..	8	7	6	3,058,397	287,945	26,185 43	10.62	9 09	May 15	Oct. 11
Peterborough ..	21	18	15	12,324,345	1,160,318	106,552 61	10.62	9 18	″ 4	″ 24
Haliburton	....	1	1	205,709	20,172	1,887 74	10.20	9 36	June 15	″ 31
Hastings	54	50	39	34,699,799	3,449,264	313,089 61	10.06	9 08	April 29	″ 31
Totals	83	76	61	50,288,250	4,917,699	447,715 39	10.23	9 10	May 3	Oct. 27
Muskoka	1	1	1	58,940	5,894	617 37	10.00	10 47	June 11	Aug. 4
The Prov. } 1888	...	737	557	518,734,790	49,351,372	4,558,383 92	10.51	9 24	May 5	Oct. 24
The Prov. } 1887	737	......	628	589,499,614	55,930,904	5,895,627 10	10.54	10 54	″ 4	″ 27

FACTORY CHEESE.

TABLE No. XI.—Showing by County Municipalities and groups of Counties the average of days in operation, of number of patrons, of average number of cows, yield of milk, and of value of product per cow for 404 factories in Ontario making complete returns in 1888.

Counties.	No. of returns.	Average No. of days worked.	Quantity of—		Value of cheese.		No. of Patrons.	Average No. of cows.	Yield of milk per cow for season.	Value of product per cow—		
			Milk used.	Cheese made.						Per season.		Per day.
			lb.	lb.	$	c.				$	c.	c.
Essex	....	....	....	....	...	...	...	....	......			...
Kent	6	130	4,855,662	453,572	42,419	93	477	2,155	2,253	19	68	15.1
Elgin	13	171	17,116,184	1,615,887	153,464	82	1,052	5,570	3,073	27	55	16.1
Norfolk	10	156	8,449,744	805,204	74,312	52	775	3,145	2,687	23	63	15.1
Haldimand	6	144	4,191,517	398,646	37,206	52	413	1,770	2,368	21	02	14.6
Welland	2	119	1,427,195	134,422	11,815	58	166	650	2,196	18	18	15.3
Totals	37	155	36,040,302	3,407,731	319,219	37	2,883	13,290	2,712	24	02	15.5
Lambton	11	135	10,180,818	952,603	88,697	40	1,033	4,125	2,468	21	50	15.9
Huron	9	139	11,107,464	1,033,651	97,982	62	991	4,334	2,563	22	61	16.3
Bruce	14	136	13,526,355	1,256,871	116,794	19	1,186	5,321	2,542	21	95	16.2
Totals	34	136	34,814,637	3,243,125	303,474	21	3,210	13,780	2,526	22	02	16.1
Grey	6	132	4,456,075	420,899	38,003	10	384	1,962	2,271	19	32	14.6
Simcoe	2	120	908,580	86,229	8,032	61	85	345	2,634	23	28	19 4
Totals	8	130	5,364,655	507,128	46,035	71	469	2,307	2,325	19	95	15.3
Middlesex	23	157	33,508,345	3,108,261	295,569	80	2,061	11,063	3,029	26	72	17.0
Oxford	27	177	53,045,872	5,008,649	477,138	00	1,983	16,645	3,187	28	67	16.2
Brant	3	163	3,742,101	353,530	33,298	47	247	1,350	2,772	24	67	15.2
Perth	13	147	21,437,794	1,992,494	192,308	74	1,373	7,493	2,861	25	67	17.4
Wellington	8	130	8,830,784	822,821	74,122	32	764	3,520	2,509	21	06	16.2
Waterloo	4	121	2,387,566	218,334	20,667	78	214	1,089	2,192	18	98	15.7
Dufferin	2	107	864,890	80,855	7,024	32	88	485	1,783	14	48	13.5
Totals	80	160	123,817,352	11,584,944	1,100,129	43	6,730	41,645	2,973	26	42	16.6
Lincoln	....	....	....	....	...	...	... .	....	......	...	...	...
Wentworth	1	156	1,140,000	108,000	10,500	00	80	400	2,850	26	25	16.8
Halton	....	....	....	....	...	...	.....	....	......	...	...	...
Peel	1	115	340,968	31,000	3,100	00	25	120	2,841	25	83	22.5
York	1	102	143,000	14,300	1,430	00	18	78	1,833	18	33	18.0
Ontario	1	113	129,700	11,608	1,171	12	17	50	2,594	23	42	20.7
Durham	4	130	1,953,728	180,894	16,212	10	230	850	2,299	19	07	14.7
Northumberland	19	158	16,061,264	1,536,820	138,162	42	1,010	5,904	2,720	23	40	14.8
Prince Edward	10	145	7,436,600	724,994	65,833	12	735	3,071	2,422	21	44	14.8
Totals	37	151	27,205,260	2,607,616	236.408	76	2,115	10,473	2,598	22	57	15.0
Lennox and Addington	9	155	10,507.760	1,023,039	94,821	50	804	4,050	2,595	23	41	15.1
Frontenac	11	152	5,745,052	555,572	51,035	97	329	2,446	2,349	20	87	13.7
Leeds and Grenville	62	160	59,224,044	5,689,521	516,661	27	2,717	23,484	2,522	22	00	13.8
Dundas	27	154	21,795,203	2,107,708	191,508	69	1,026	8,413	2,591	22	76	14.8
Stormont	8	147	6,951,186	673,031	61,666	35	379	2,730	2,546	22	59	15.3
Glengarry	4	145	2,294,832	217,144	18,406	11	132	960	2,390	19	17	13.3
Prescott	9	147	5,268,725	515,709	46,543	28	279	2,300	2.291	20	24	13.8
Russell	3	141	1,409,880	138,121	12,689	21	124	700	2,014	18	13	12.8
Carleton	8	140	6,861,251	657,831	59,061	98	371	3,075	2,231	19	21	13.7
Renfrew	2	125	750,258	73,656	6,795	42	73	380	1,974	17	88	14.3
Lanark	11	143	8,729,764	845,046	76,614	31	541	3,800	2,297	20	16	14.1
Totals	154	154	129,537,955	12,496,378	1,135,804	09	6,775	52,338	2.475	21	70	14.1
Victoria	4	130	2,483,434	233,520	21,295	77	211	1,026	2,421	20	76	16.0
Peterborough	11	148	8,750,117	821,358	75,619	17	523	3,195	2,739	23	67	16.0
Haliburton	1	119	205,709	20,172	1,887	74	20	105	1,959	17	98	15.1
Hastings	38	160	34,380,042	3,414,617	309,879	61	1,738	12,459	2,759	24	87	15.5
Totals	54	156	45,819,302	4,489,667	408,682	29	2,492	16,785	2,730	24	35	15.6
The Province.. 1888	404	153	402,599,463	38,336,589	3,549,753	86	24,674	150,618	2,673	23	57	15.4
The Province.. 1887	459	156	450,513,282	42,833,449	4,515,187	75	27,679	165,710	2,719	27	25	17.5

FACTORY CHEESE.

TABLE No. XII.—Showing by County Municipalities and groups of Counties the yearly average per factory of days in operation, of the quantity and value of cheese made, of number of patrons, of average number of cows, and yield of milk and value of product per cow, computed from an aggregate of 2,581 factories making complete returns in the six years 1883-8.

Counties.	No. of days worked per season.	Quantity of—		Value of cheese.	No. of patrons.	Average No. of cows.	Average per cow.				Milk to make 1 lb. of cheese.	Value of cheese per 100 lb.	Value of product of 100 lb. of milk.
		Milk used.	Cheese made.				Yield of milk—		Value of product—				
							Per season.	Per day.	Per season.	Per day.			
		lb.	lb.	$			lb.	lb.	$ c.	cts.	lb.	$ c.	cts.
Essex	136	453,369	44,499	4,781	49	189	2,399	17.6	25 30	18.6	10.19	10 74	105.5
Kent	144	767,180	72,612	7,084	74	297	2,583	17.9	23 85	16.5	10.57	9 76	92.3
Elgin	168	1,110,661	105,386	10,395	71	370	3,002	17.9	28 09	16.7	10.54	9 86	93.6
Norfolk	160	938,371	90,321	8,607	74	339	2,768	17.3	25 39	15.9	10.39	9 53	91.7
Haldimand	151	866,704	83,299	7,890	76	333	2,603	17.2	23 69	15.7	10.40	9 47	91.0
Welland	130	266,468	25,212	2,329	31	125	2,132	16.4	18 63	14.3	10.57	9 24	87.4
Group	158	885,647	84,545	8,190	69	319	2,776	17.6	25 67	16.2	10.48	9 69	92.5
Lambton	146	874,302	82,520	8,025	73	329	2,657	18.2	24 39	16.7	10.60	9 72	91.8
Huron	143	1,250,857	118,705	11,861	103	459	2,725	19.1	25 84	18.1	10.54	9 99	94.8
Bruce	137	982,873	93,545	9,084	81	378	2,600	18.9	24 03	17.5	10.51	9 71	92.4
Group	142	1,021,876	96,902	9,513	84	384	2,661	18.7	24 77	17.4	10.55	9 82	93.1
Grey	133	633,289	61.045	5,781	57	254	2,493	18.7	22 76	17.1	10.37	9 47	91.3
Simcoe	126	402,663	39,141	3,905	43	182	2,212	17.6	21 46	17.0	10.29	9 98	97.0
Group	131	543,601	52,527	5,051	52	226	2,405	18.4	22.35	17.1	10.35	9 62	92.9
Middlesex	167	1,303,721	122,935	12,208	74	425	3,068	18.4	28 72	17.2	10.60	9 93	93.6
Oxford	178	1,790,189	170,770	17,031	71	567	3,157	17.7	30 04	16.9	10.48	9 97	95.1
Brant	166	995,424	96,840	9,594	67	357	2,788	16.8	26 87	16.2	10.28	9 91	96.4
Perth	154	1,307,648	123,951	12,402	79	462	2.830	18.4	26 84	17.5	10.55	10 01	94.8
Wellington	142	1,291,032	122,416	11,869	92	471	2,741	19.3	25 20	17.7	10.55	9 70	91.9
Waterloo	136	812,603	76,072	7,600	63	314	2,588	19.0	24 20	17.7	10.68	9 99	93.5
Dufferin	124	590,813	55,869	5,350	51	253	2,335	18.8	21 15	17.0	10.57	9 58	90.6
Group	165	1,395,633	132,502	13,169	74	467	2,989	18.1	28 20	17.1	10.53	9 94	94.4
Lincoln	148	663,470	62,830	5,833	66	240	2,764	18.7	24 30	16.4	10.56	9 28	87.9
Wentworth	159	1,108,586	106,481	10,403	79	405	2,737	17.2	25 69	16.2	10.41	9 77	93.8
Halton	123	102,686	9,868	912	8	45	2,282	18.6	20 27	16.5	10.41	9 24	88.8
Peel	124	655,607	61,438	5,811	47	250	2,622	21.2	23 24	18.8	10.67	9 46	88.6
York	100	190,549	18,100	1,831	22	100	1,905	19.1	18 31	18.3	10.53	10 12	96.1
Ontario	120	268,812	25,460	2,500	34	116	2,317	19.3	21 55	18.0	10.56	9 82	93.0
Durham	141	692,941	65,707	6,091	70	265	2,615	18.6	22 98	16.3	10.55	9 27	87.9
Northumberland	158	826.219	80,777	7,594	51	287	2,879	18.3	26 46	16.8	10.23	9 40	91.9
Prince Edward	149	844,725	83,362	7,673	75	327	2,583	17.4	23 46	15 8	10.13	9 20	90.8
Group	151	750,726	73,024	6,852	57	275	2,730	18.1	24 92	16.5	10.28	9 38	91.3
Lennox & Add.	154	1,254,997	122,921	11,557	94	485	2,588	16.8	23 83	15.5	10.21	9 40	92.1
Frontenac	149	569,685	55,625	5,203	31	225	2,532	17.0	23 12	15.5	10.24	9 35	91.3
Leeds and Gren.	162	961,767	94,925	9,080	41	354	2,717	16.8	25 65	15.8	10.13	9 57	94.4
Dundas	155	807,850	79,512	7,520	37	320	2,525	16.2	23 50	15.1	10.16	9 46	93.1
Stormont	149	820,215	80,508	7,478	44	333	2,463	16.6	22 46	15.1	10.19	9 29	91.2
Glengarry	155	592,090	57,806	5,885	34	257	2,304	14.9	22 90	14.8	10.24	10 18	99.4
Prescott	146	517,835	51,841	4,791	29	233	2,222	15.2	20 56	14.1	9.99	9 24	92.5
Russell	141	454,879	45,199	4,421	33	207	2,197	15.6	21 36	15.2	10.06	9 78	97.2
Carleton	137	687,309	67,319	6,324	42	307	2,239	16.3	20 60	15.0	10.21	9 39	92.0
Renfrew	127	427,601	42,414	4,096	36	212	2,017	15.9	19 32	15.3	10.08	9 66	95.8
Lanark	146	863,574	85,730	7,979	50	349	2,474	16.9	22 86	15.6	10.07	9 31	92.4
Group	154	811,747	79,945	7,612	42	319	2,545	16.5	23 86	15.4	10.15	9 52	93.8
Victoria	139	498,017	48,665	4,597	40	198	2,515	18.1	23 22	16.7	10.23	9 45	92.3
Peterborough	148	662,081	63,631	6,027	41	241	2,747	18.5	25 01	16.9	10.41	9 47	91.0
Haliburton	119	205,709	20,172	1.888	20	105	1,959	16.5	17 98	15.1	10.20	9 36	91.8
Hastings	163	987,173	99,371	9,397	47	346	2,853	17.5	27 16	16.7	9.93	9 46	95.2
Group	159	871,690	86,954	8,225	45	310	2,812	17.7	26 53	16.7	10.02	9 46	94.4
The Province	156	948,120	91,864	8,877	56	346	2,740	17.5	25.66	16.4	10.32	9 66	93.6

CREAMERY BUTTER.

TABLE No. XIII.—Showing by County Municipalities the quantity and value of butter made at 27 creameries in Ontario in 1888, and the number of creameries reported in operation.

Counties.	No. reported in operation.	Returns made.		Butter.		Cheese.		Total value of produce.	Average price of butter per lb.	Average date of—	
		Butter only.	Butter and Cheese.	Quantity.	Value.	Quantity.	Value.			Opening.	Closing.
				lb.	$	lb.	$	$	cts.		
Essex	1	*1	....	18,790	4,510	....	....	4,510	24.00	Jan. 1	Nov. 1
Lambton	1	....	....	....	....	....	....	....	....	....	....
Huron	3	2	....	45,250	9,088	....	....	9,088	20.08	May 19	Oct. 10
Bruce	8	7	1	248,756	49,287	64,673	5,684	54,971	19.81	" 20	" 1
Grey	6	6	....	180,174	37,361	....	....	37,361	20.74	" 20	" 2
Perth	2	2	....	38,466	7,669	....	....	7,669	19.94	" 15	" 5
Wellington	1	1	....	27,501	5,727	....	....	5,727	20.83	" 14	Aug. 18
Waterloo	2	1	1	58,435	11,656	53,404	3,831	15,487	19.95	" 12	Oct. 16
Ontario	1	....	....	....	....	....	....	....	....	....	....
Durham	1	1	....	11,840	2,250	....	....	2,250	19.00	June 1	Oct. 1
Prince Edward	1	....	1	20,332	4,273	35,170	2,835	7,108	21.01	May 1	Nov. 1
Leeds & Grenville	1	1	....	11,984	2,612	....	....	2,612	21.79	" 1	Oct. 31
Dundas	1	....	....	....	....	....	....	....	....	....	....
Glengarry	1	1	....	14,107	3,006	....	....	3,006	21.31	May 3	Oct. 31
Russell	1	†1	....	1.644	304	....	....	304	18.50	....	....
The Province 1888..	31	24	3	677,279	137,743	153,247	12,350	150,093	20.34	....	....
1887..	42	32	3	1,136,576	230.022	131,307	11,617	241,639	20.24	....	....
1886..	47	27	2	823,853	160,798	96,156	5,529	166,327	19.52	....	....
1885..	27	11	2	353,347	69,583	126,591	7,785	77,368	19.69	....	....
1884..	23	5	3	147,924	32,088	259,688	20,786	52,874	21.69	....	....
1883..	27	9	3	243,902	51,817	134,446	11,218	63,035	21.33	....	....

* Made large quantities of ice-cream during the warm months.

† In operation but 42 days.

PART III.

VALUES, RENTS AND FARM WAGES.

VALUES OF FARM PROPERTY.—In the table following the value of farm property is given by districts for the years 1887 and 1888, under the divisions of Land. Buildings, Implements and Live Stock, together with the averages for the seven years 1882-8, and the totals for the province in each year since 1882 :

Districts.		Farm Land.	Buildings.	Implements.	Live Stock.	Total Farm Property.
		$	$	$	$	$
Lake Erie	1888..	87,922,762	24,636 626	6,540,396	13,131,517	132,231,201
	1887..	88,250 744	23,913,481	6,333,437	12,854,990	131,352,652
	1882-8	88,720,180	23,020,595	6,115,108	12,399,427	130,255,310
Lake Huron........	1888..	73,145,711	18,718,270	5,336,058	12,300,224	109,500,263
	1887..	74,763,952	18,595,893	5,185,486	12,083,846	110,629,177
	1882-8	75,744,167	17,047,588	4,898,900	11.693,983	109,384,638
Georgian Bay	1888..	49,295,822	14,231,484	4,316,375	8,931,641	76,775,322
	1887..	48,870,648	13,345,052	4,180.741	8,851,297	75,247,738
	1882-8	49,357,717	12,608,765	3,927,698	8,606,019	74,500.199
West Midland......	1888..	139,798,683	41,400,140	10,258,573	21,860,521	213,317,917
	1887..	140,581,814	40,786,680	10,162,982	22,957,570	214,489,046
	1882-8	142,360,888	38,768,369	10,086,290	22,417,598	213,633,145
Lake Ontario......	1888..	139,895,993	42,471,279	10,451,605	20,473,372	213,292,249
	1887..	136,086,496	42,922,112	10,884,220	21,223,001	211,115,829
	1882-8	137,896,148	40,487,353	10,099,305	20,235,680	208,718,486
St. L. and Ottawa ..	1888..	104,884,323	33,701,066	9,128,859	18,299,018	166,013,266
	1887..	102.827,722	32 634,723	8,948,219	18,692,471	163,103,135
	1882-8	97,953,463	29,091,945	8,179,163	17,153,659	152,378,230
East Midland	1888..	40,934,983	12,019,842	3,331,576	6,893,434	63,179,835
	1887..	40,900,266	11,436,589	3,204,864	6,759,268	62,300.987
	1882-8	41,261,095	10,556,664	2,987,671	6,371,118	61,176,548
Northern Districts..	1888..	4,602,524	1,114,519	391,390	949,508	7,057,941
	1887..	4,602.113	1,118,977	348,348	984,212	7,053,650
	1882-8	4,479,290	1,047,582	346,843	961,777	6,835,492
The Province........	1888..	640,480,801	188,293,226	49,754,832	102,839,235	981,368,094
	1887..	636,883,755	184,753,507	49,248,297	104,406,655	975.292,214
	1886..	648,009,828	183,748,212	50,530,936	107,208,935	989,497,911
	1885..	626,422,024	182,477,905	48,569,725	100,690,086	958,159,740
	1884..	625,478,706	173,386,925	47,830,710	103,106,829	949,803,170
	1883..	654,793,025	163,030,675	43,522,530	100,082,365	961,428,595
	1882..	632,342,500	132,711,575	37,029,815	80,540,720	882.624.610
	1882-8	637,772,948	172,628,861	46.640,978	99,839,261	956,882,048

The total value of farm property is $981,368,094, being $6,075,880 more than in the previous year, but falling short of the figures of 1886 (the highest of the seven years) by $8,129,817. There are increases in the values of land, buildings and implements in 1888 compared with the year before, but the value of live stock has fallen. Of the four items comprising the table none equal their figures in 1886 except farm buildings, which have improved in value every year of the seven. The most substantial increase in total farm property is noted in the St. Lawrence and Ottawa counties, and excepting the Lake Huron and West Midland groups, every other district also shows a higher valuation. Of the four western districts, the Georgian Bay group alone returns an increase in the value of farm land, while all the districts to the east report a rise. The Lake Ontario counties and the Northern Districts are the only groups showing a decline in the value of farm buildings, and all the groups but the Lake Ontario return an advance in the value of implements. The decrease in the value of live stock is confined to the West Midland, Lake Ontario, St. Lawrence and Ottawa groups and the Northern Districts.

VALUE PER ACRE OCCUPIED.—The average value per acre occupied of the different classes of farm property is presented in the table below by county groups and for the province for 1887 and 1888, together with the average for the seven years 1882-8:

Farm Property.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c,
Land	1888....	37 60	32 21	24 51	42 98	45 85	20 01	15 55	4 07	29 21
	1887....	37 71	32 84	24 19	43 17	44 58	19 79	15 64	4 42	29 22
	1882-8..	38 08	33 41	24 45	43 80	45 27	18 99	16 15	4 30	29 43
Buildings	1888....	10 54	8 24	7 08	12 73	13 92	6 43	4 56	98	8 58
	1887....	10 22	8 17	6 60	12 52	14 06	6 28	4 37	1 08	8 47
	1882-8..	9 88	7 52	6 24	11 93	13 29	5 64	4 13	1 00	7 97
Implements ...	1888....	2 80	2 35	2 15	3 16	3 42	1 74	1 26	35	2 27
	1887....	2 70	2 28	2 07	3 12	3 57	1 72	1 23	33	2 26
	1882-8..	2 62	2 16	1 95	3 10	3 32	1 59	1 17	33	2 15
Live Stock	1888....	5 61	5 42	4 44	6 72	6 71	3 49	2 62	84	4 69
	1887....	5 49	5 31	4 38	7 05	6 95	3 60	2 58	95	4 79
	1882-8..	5 32	5 16	4 26	6 90	6 64	3 32	2 50	92	4 61
Totals......	1888....	56 55	48 22	38 18	65 59	69 90	31 67	23 99	6 24	44 75
	1887....	56 12	48 60	37 24	65 86	69 16	31 39	23 82	6 78	44 74
	1882-8..	55 90	48 25	36 90	65 73	68 52	29 54	23 95	6·55	44 16

The Lake Huron and West Midland counties and the Northern Districts show a decline in their respective total values per acre, but the other five groups have improved, the result being a net increase taking the province over equal to 1 cent per acre of occupied land compared with the previous year, and 59 cents compared with the average for the seven years 1882-8. Land is 1 cent lower per acre occupied than in 1887, and 22 cents below its average value for the seven years. Buildings, however, are worth 11 cents more per acre compared with the previous year and 61 cents more than for the seven years average. Implements show an increase in value of 1 cent per acre of occupied land over the returns for 1887, and are 12 cents above the average of the years 1882-8. Live stock are 10 cents per acre below their value in the previous year, but exceed the figures for the seven years by 8 cents per acre occupied. The values of land, buildings and implements per acre of occupied land are highest in the Lake Ontario counties, the West Midland group standing second in every instance, but in the item of live stock the two districts change places.

VALUES OF LIVE STOCK PER 1000 ACRES CLEARED.—The table following gives the values of live stock per 1,000 acres of cleared land by county groups and for the province in 1887 and 1888, and the average for the seven years 1882-8 :

Year.	Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.
	$	$	$	$	$	$	$	$	$
1888.....	9,840	9,775	8,856	9,783	8,975	8,148	8,339	8,054	9,095
1887.....	9,788	10,004	8,937	10,362	9,365	8,462	8,484	9,011	9,399
1882-8 ..	9,730	10,053	8,943	10,369	9,091	8,030	8,116	9,499	9,236

A decline in values is observable in every group excepting the Lake Erie counties, in which district an increase of $52 is shown. The decrease in the province is $304 per 1,000 acres cleared, or 3.2 per cent. compared with the values in 1887, and $141 or over 1.5 per cent. compared with the average for the seven years.

RENTALS OF LEASED FARMS.—In the following table will be found by districts the area, value and rental of such leased farms as were reported from farmers' schedules for 1888. The average rental per acre is computed on two bases, the total acreage and the cleared acreage. The averages of the province are also compared with the returns furnished in 1886 and 1887 :

Districts.	Per cent. returned as leased.	Average area of leased farms.		Average value of leased farms.		Average yearly rental.	Per cent. ratio of rental to value of farm.	Rent per acre based on—					
		Acres occupied.	Acres cleared.	Land.	Buildings.			Acres cocupied.			Acres cleared.		
								1888	1887	1886	1888	1887	1886
				$	$	$		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Lake Erie.........	13.1	111.2	80.2	4,371	1,236	233	4.16	2 10	2 07	2 13	2 91	2 88	3 05
Lake Huron.......	11.5	117.9	85.3	4,357	1,206	224	4.03	1 90	1 94	2 03	2 62	2 74	2 86
Georgian Bay......	12.3	115.0	80.2	3,210	938	181	4.36	1 57	1 55	1 48	2 25	2 25	2 21
West Midland.....	14.4	125.5	96.8	5,425	1,547	293	4.20	2 33	2 32	2 28	3 02	3 06	3 06
Lake Ontario.....	19.2	115.6	94.7	5,613	1,547	317	4.43	2 75	2 62	2 83	3 35	3 22	3 47
St. L. and Ottawa .	9.3	133.8	82.4	3,480	1,220	178	3.79	1 33	1 33	1 43	2 16	2 21	2 34
East Midland	13.2	143.6	89.7	4,011	1,067	230	4.53	1 60	1 56	1 59	2 56	2 50	2 66
Northern Districts.	5.4	171.1	48.7	1,148	446	83	5.21	0 49	0 41	0 40	1 71	1 96	1 70
The Province 1888	13.2	121.5	88.2	4,623	1,325	251	4.22	2 07	....	....	2 85	....	....
1887	15.0	118.1	84.5	4,458	1,270	239	4.17	....	2 02	....	....	2 83	....
1886	15.3	121.1	85.7	4,808	1,340	255	4.15	....	....	2.10	....	....	2.97

The percentage of farms returned as leasehold is 13.2 compared with 15.0 in 1887, the highest proportion being found in the Lake Ontario group. The leased farm is more improved than the average farm, the former showing 88.2 acres cleared while the provincial average clearance on 121.5 acres occupied is only 62.3 acres. The value is higher than in 1887, but is about an average of the three years 1886-8. The average rental paid was $12 more than in 1887, but was $4 less than in 1886. Based on area occupied the rent per acre increased 5 cents, while on the area cleared the increase was 2 cents over 1887 and 12 cents below 1886. The Lake Ontario group shows the highest rent per acre.

MARKET PRICES.—The average prices paid for agricultural produce in the leading markets of the province during the latter part of 1888 are given in the following table, the figures being computed from the reports appearing in the newspapers in the towns and cities selected. The prices given for wheat, barley, oats, rye, pease, hay and wool are made up from the quotations for the six months from July to December. The average prices paid for corn, buckwheat, beans, potatoes, carrots and turnips were based on the figures prevailing in the last three months of the year, when the bulk of those crops is marketed. Averages for the province made on the same basis are given for each kind of grain for the seven years 1882-8, together with the average for that period, and the prices of corn, buckwheat, beans, hay, wool and roots are given for the four years 1885-8, with their averages for that time:

Markets.	Fall Wheat per bush.	Spring Wheat, per bush.	Barley, per bush.	Oats, per bush.	Rye, per bush.	Pease, per bush.	Corn (in ear) per bush.	Buckwheat, per bush.	Beans, per bush.	Potatoes, per bush.	Carrots, per bush.	Turnips, per bush.	Hay, per ton.	Wool, per lb.
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	$ c.	cts.
Brantford	103.5	102.5	57.7	36.2	60.3	59.5	29.6	48.8	153.0	30.4	....	.. .	15 52	19.8
Brockville.......	97.5	97.3	57.5	44.1	47.5	67.5	....	51.0	95.0	36.0	....	37.5	14 42	20.0
Chatham	99.4	99.4	45.7	33.8	....	55.0	18.4	....	119.3	35.5	....	....	......	19.5
Cobourg.........	92.0	91.8	61.3	42.7	63.1	76.1	....	....	......	23.7	....	....	14 26	19.0
Guelph..........	101.8	100.4	58.1	39.1	58.5	62.8	....	....	.....	28.1	....	9.0	14 48	21.5
Kingston........	104.4	103.9	64.3	43.1	64.8	68.4	31.3	44.4	161.3	40.0	28.6	28.4	17 19	17.5
Lindsay.........	101.0	97.5	62.2	37.1	52.1	62.8	....	....	......	26.5	....	....	14 40	19.0
London..........	98.3	96.3	53.9	37.0	57.0	60.5	28.6	48.0	102.1	27.9	22.5	23.9	12 37	19.9
Ottawa..........	109.1	108.0	61.0	42.4	63.8	70.2	35.0	60.0	155.0	44.1	34.6	36.7	14 28	21.6
Peterborough....	103.3	99.1	62.7	41.2	59.9	70.3	....	....	......	39.0	....	....	13 53	19.0
St. Thomas......	98.6	93.4	47.5	38.9	....	56.3	23.8	....	......	26.0	....	....	11 73	17.5
Stratford	101.1	99.6	54.3	38.9	....	65.0	....	....	......	28.7	...	....	10 84	.....
Toronto	105.4	100.4	64.9	42.6	67.5	68.4	....	....	....	32.8	28.8	16.0	20 54	21.8
The Province.. 1888..	102.4	99.3	60.1	40.5	60.2	65.4	29.3	49.3	113.7	31.7	26.8	20.8	16 71	20.4
1887..	78.4	78.0	56.7	34.6	49.5	55.9	28.7	45.0	97.9	62.8	28.0	29.5	11 62	22.1
1886..	73.6	72.5	51.3	32.0	52.2	52.6	27.6	33.7	83.7	44.9	29.5	24.6	9 69	19.1
1885..	81.5	80.6	55.2	31.5	55.2	58.0	27.9	39.2	80.0	41.1	32.5	23.6	9 85	17.4
1884..	80.5	81.4	53.6	33.1	59.7	64.4	....	....	.....	....	....	....	......	.... .
1883..	105.0	107.0	57.0	38.0	62.0	71.0	....	....	......	....	....	....	......	......
1882..	101.0	106.0	65.0	43.0	64.0	74.0	....	....	......	....	....	....	......	......
1882-8	88.8	89.0	57.4	36.1	60.8	62.3	28.5	40.9	93.8	42.3	29.3	24.2	11 50	19.6

It will be seen that the advancing prices of 1887, were continued in 1888, the only exceptions being in the cases of roots and wool. Fall wheat realised 102.4 cents, or 24 cents per bushel more than in 1887. This average was only excelled by that of 1883. Spring wheat advanced 21.3 cents over the prices of 1887; barley, 3.4 cents; oats, 5.9 cents; rye, 10.7 cents; pease, 9.9 cents; while hay owing to the poor pastures of two years in succession mounted to $16.71 per ton, being $5.09 more than quoted in 1887, and $7.02 more than the marketable price of 1886. Potatoes showed the largest decline owing to the unusually heavy crop, following a year of scarcity when the price was abnormally high. The quotations averaged little better than one half those of 1887, and were 25 per cent. below the annual average of 42.3 cents. Wool, though showing a decrease from 1887, was slightly higher in price than the average market of the past four years.

VALUE OF CROPS.—The following table gives the marketable value of each crop based on the market prices described above for the years 1885, 1886, 1887 and 1888, together with the totals of all crops. The annual average value and the per cent. ratio of the value of the 1888 crop to this *average* are also shown, the annual average of the first six crops being derived from the values of the seven years 1882-8 and of the remaining crops from the values of the four years 1885-8:

Crops.	1888.	1887.	1886.	1885.	Average 1882-8.	Per cent. ratio of 1888 to average.
	$	$	$	$	$	
Fall Wheat....	14,162,726	11,321,439	13,300,361	17,504,799	16,682,08 2	85
Spring Wheat.	6,408,384	4,393,831	6,900,951	7,358,684	8,229,566	78
Barley	14,043,308	9,715,448	10,009,799	9,126,540	11,346,277	124
Oats	26,514,099	17,247,443	18,772,995	17,397,369	20,211,869	131
Rye...........	779,772	442,969	577,573	701,871	1,103,947	71
Pease	9,332,490	6,804,892	8,439,004	8,123,591	8,177,177	114
Corn	5,108,976	2,412,164	2,982,265	2,996,848	3,375,063	151
Buckwheat	602,585	461.409	565,725	600,024	557,436	108
Beans.........	607,756	270,180	403,494	397,251	419,670	145
Hay	33,570,674	35,947,748	29,016,182	32,033,727	32,642,083	103
Potatoes	7,060,733	6,705,784	7,189,548	8,668,460	7,406,131	95
Carrots	1,044,820	589,592	1,029,710	1,125,254	947,344	110
Turnips	9,909,169	9,266,970	11,577,019	9,708,505	10,115,416	98
Totals....	129,145,492	105,579,869	110,764,626	115,742,923	121,214,061	107

The relative values here derived depend upon the three variables, viz., the area in crop, the yield per acre and the market value per unit of measure. In 1888 all three have shared in raising the aggregate home value of all field crops enumerated above as compared with 1887. In potatoes, carrots and turnips the yield more than counterbalanced the fall in prices, while the price for hay did not compensate for the failure of the crop. These crops aggregated $129,145,492, being $23,565,623 more than in 1887, and $7,931,431 in excess of the annual *average*. Hay alone fell below the value of 1887, but fall wheat, spring wheat, rye, potatoes and turnips did not come up to the annual average.

CROP VALUES BY COUNTY GROUPS.—The aggregate value of the field crops, as shown in the preceding table is further presented in the following summary and its distribution by groups and counties is shown for the four years 1885-8 and the annual average as already described for 1882-8 :

Districts.	1888.	1887.	1886.	1885.	Average 1882-7.	Per cent. ratio of 1888 to average.
	$	$	$	$	$	
Lake Erie.........	17,889,286	12,080,651	13,485,030	14,995,559	14,720,739	122
Lake Huron.......	14,303,010	11,936,938	11,438,427	12,997,937	13,150.140	109
Georgian Bay....	10,969,814	9,447,927	9.447,776	9,825,779	10,745,119	102
West Midland.....	29,217,226	22,805,391	23,691,683	24,684,983	26,256,749	111
Lake Ontario......	27,908,395	22,386,070	24,623,942	25,444,492	26,600,984	105
St. L. and Ottawa.	20,171,732	18,975,474	19,046,820	19,554,504	20,525,473	98
East Midland.....	7,213,525	6,459,491	7,870,811	7,046,924	7,821,530	92
Northern Districts.	1,472,504	1,487,927	1,160,137	1,192,745	1,393,327	106
The Province...	129,145,492	105,579,869	110,764,626	115,742,923	121,214,061	107

Every group except the Northern Districts shows an increase over the values of the year 1887, that in the Lake Erie group reaching 48 per cent. Compared with the annual average the latter group also shows the highest per cent. ratio, while the St. Lawrence and Ottawa, and East Midland groups fall below the average line. In point of distribution of values the West Midland group claims the largest share, and the Lake Ontario counties come in second. In the annual average however this order is reversed.

PER CENT. RATIOS OF VALUES PER ACRE.—In the following table the values per acre of 1888 are compared with the annual averages by means of per cent. ratios, and are shown by groups of counties and for the province for the several field crops :

Districts.	Fall Wheat.	Spring Wheat.	Barley.	Oats.	Rye.	Pease.	Corn.	Buckwheat.	Beans.	Hay.	Potatoes.	Carrots.	Turnips.	All field crops.
Lake Erie..............	106	138	127	128	111	131	125	124	150	108	120	100	95	117
Lake Huron.............	99	130	112	113	118	104	119	94	157	110	92	87	82	105
Georgian Bay............	105	125	92	99	91	85	122	115	98	109	88	84	80	98
West Midland...........	94	128	112	117	115	118	118	127	149	111	106	91	91	108
Lake Ontario............	81	133	105	118	97	104	125	130	132	84	106	100	99	103
St. Lawrence and Ottawa	114	119	94	100	78	87	106	108	114	100	75	84	83	98
East Midland......	114	102	91	94	90	71	117	122	128	91	72	100	95	93
Northern Districts.......	79	103	102	103	80	102	92	84	92	124	58	81	85	100
The Province.	97	125	105	111	93	104	121	119	141	102	92	93	91	104

The marketable value of an acre of crop was thus 4 per cent. above the annual average, from 7 per cent. below in the St. Lawrence and Ottawa counties to 17 per cent. above in the Lake Erie group. Fall wheat was 3 per cent. below, the increase in the market prices not counteracting the deficiency in yield. On the other hand spring wheat was 25 per cent. over the average, the market prices and yield per acre both acting in favor of the increase. The value per acre of turnips was below the average in every group, but this was the only crop in the Lake Erie counties to fall below the annual average, as many as eight crops failing to give averages in the Georgian Bay group and in the Northern Districts.

VALUE OF PRODUCE PER ACRE UNDER CROP.—The average per acre of each of the field crops is given in the following table, by groups of counties, for 1888 and for the province for the four years 1885-8 with the annual average for 1882-8. Also the average per acre under crop for all field crops in aggregate for the same periods.

Crops.		Lake Erie.	Lake Huron.	Georgian Bay.	West Midland.	Lake Ontario.	St. Lawrence and Ottawa.	East Midland.	Northern Districts.	The Province.				
										1888.	1887.	1886.	1885.	1882-8
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Fall Wheat.......		17 54	17 43	20 05	16 59	14 69	19 29	21 05	15 07	17 14	12 61	15 00	20 00	17 60
Spring Wheat....		17 49	15 38	16 59	16 37	19 79	17 81	13 61	17 56	17 42	9 06	11 95	9 20	13 97
Barley		18 49	17 43	13 34	18 34	15 79	13 19	12 56	13 77	15 68	12 66	13 60	15 27	14 98
Oats		17 48	14 92	11 78	16 47	15 83	11 95	10 44	11 78	14 33	10 25	11 57	11 27	12 88
Rye..............		10 63	12 23	10 19	11 58	8 75	8 57	8 56	9 49	9 27	6 48	8 52	8 96	9 97
Pease		15 60	14 58	11 25	16 42	13 05	10 50	8 03	14 90	13 40	9 36	11 99	12 57	12 87
Corn.		25 45	23 23	18 28	22 49	21 00	17 08	17 18	10 87	22 91	14 72	19 06	17 86	18 98
Buckwheat.......		10 16	7 41	7 78	9 36	12 18	9 53	10 39	8 39	10 47	7 19	7 99	9 71	8 77
Beans		27 44	31 15	16 99	28 72	26 33	24 30	23 25	18 73	26 77	13 33	19 15	16 12	18 93
Hay		16 24	16 74	14 17	17 49	11 41	14 27	10 76	16 14	14 64	15 76	12 64	14 12	14 29
Potatoes		47 77	46 13	50 11	51 32	49 29	40 47	36 48	37 32	45.87	47 80	51 30	54 27	49 87
Carrots		84 86	89 05	83 44	94 34	106 51	65 90	92 46	56 19	90 66	64 72	111 12	124 70	97 35
Turnips		83 01	81 35	76 30	92 48	96 44	63 45	77 53	60 11	87 55	87 99	117 02	94 90	96 40
Average of all field crops.	1888..	18 70	17 91	15 91	19 72	17 13	14 40	13 12	16 70	17 00	......	.....	......	... .
	1887..	12 98	15 31	14 42	15 73	13 94	13 85	12 00	18 00	......	14 25	......	......	......
	1886..	14 67	14 86	14 62	16 68	15 46	13 66	14 02	14 26	......	......	15 00	......	.....
	1885..	16 33	17 08	15 22	17 11	16 18	14 31	12 94	14 36	......	......	......	15 78	......
	1882-8	16 05	17 03	16 27	18 24	16 63	14 73	14 08	16 62	......	......	......	......	16 33

In this comparison we discuss only the results of the yield per acre and the market prices, as the other variable the area in crop is now eliminated. Taking the provincial averages, three crops—hay, turnips and potatoes—fall below the averages of 1887, while compared with the annual average fall wheat, rye, potatoes, carrots and turnips fail to reach the average. All field crops average $17 per acre, an increase of $2.75 over 1887 and of 67 cents compared with the annual average. The Northern Districts alone showed a decrease from 1887, but here there was an increase of 8 cents per acre over the annual average. Three groups showed decreases from the annual average, the Georgian Bay of 36 cents per acre, the St. Lawrence and Ottawa counties of 33 cents, and the East Midland group of 96 cents. The yields and prices gave the best results in the West Midland group at $19.72 per acre, the Lake Erie counties being second at $18.70 and the East Midland group coming last at $13.12, or barely two-thirds of the leading group. In the annual average, the West Midland group also holds first place, with the East Midland counties last.

FARM LABOR AND WAGES.

With the exception of a few limited localities, farmers were able to obtain all the help required for spring work. The number employed, however, was far smaller than usual, and this may be explained by the fact that farmers, in the majority of cases, are endeavoring, with the assistance of labor-saving machinery, to do more of the work themselves, the previous year having been a very trying one from a financial point of view. In addition, it would appear that, though the tramp element may be obtained in abundance, really good workmen are difficult to find, and many of these are unwilling to do anything except what is known as the "genteel" work of the farm. Correspondents in the western counties state that many farmers' sons and laborers of the better class have gone to the Western States and Manitoba, while in the Ottawa region more steady employment and better remuneration can be obtained by engaging with lumbermen than can possibly be afforded by the owner of the farm. At harvest time the scarcity of labor was felt in a few localities, but as a rule the supply of help was adequate. The binder has greatly altered the condition of affairs at this trying period of farming operations, and the "harvest hand" does not command the same attention that he received a decade ago. Some farmers speak of a scarcity of help at the time of root pulling and storing, but this complaint was local rather than general. The complaints of too high a rate of wages and of unskilfulness of laborers are becoming fewer each year. The general opinion is that there will be a rise of wages based upon the ground that, as prices of farm produce have considerably advanced, the laborer will naturally expect to participate in the increased return, especially as higher prices increase the cost of living. Some, however, predict a fall in the rate, as they declare that the laborer is saving more than his master. Any effect that emigration of the laboring class to the west might have is counteracted by the fast increasing use of labor-saving machinery, and by the desire on the part of the farmer to do the work "within the family." Female help, as usual, is scarce: the problem how to keep the girl on the farm has not yet been solved. In some quarters domestic servants cannot be procured at any price, as girls will not exchange the shorter hours and more varied companionship of the city and town for life on the farm. As a consequence, farmers' wives are breaking down under the ever-increasing burdens which devolve upon them.

WAGES OF FARM LABORERS.—The following table gives by county groups and for the province the average rate of wages (with and without board) of farm laborers for 1887 and 1888 with the average derived from the seven years 1882-8; also the rate of wages of domestic servants per month with board for 1887 and 1888:

Districts.	Farm Laborers.												Dome'tic servants permo'th with board.	
	Per year.						Per month.							
	With board.			Without board.			With board.			Without board.				
	1888	1887	1882-8	1888	1887	1882-8	1888	1887	1882-8	1888	1887	1882-8	1888	1887
	$	$	$	$	$	$	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Lake Erie	154	154	160	248	241	249	16 56	16 72	17 56	25 50	25 64	26 51	6 39	6 21
Lake Huron	158	159	164	256	255	259	17 21	17 19	18 12	26 81	27 00	27 70	6 13	5 88
Georgian Bay	155	155	160	251	254	255	17 01	16 95	18 06	26 86	26 17	27 67	6 28	5 80
West Midland.. .	155	159	162	247	251	252	16 65	16 82	17 76	26 40	25 92	26 97	6 37	6 17
Lake Ontario.....	159	162	164	252	253	253	16 84	16 79	17 70	26 34	25 81	26 90	6 47	6 30
St. Law. & Ottawa.	157	158	164	252	249	252	17 43	16 98	18 26	26 72	25 52	27 09	5 98	6 00
East Midland.....	160	161	166	253	256	256	17 34	16 63	18 02	26 37	26 81	27 28	6 06	5 73
Northern Districts.	170	173	174	267	262	275	19 62	18 31	19 78	29 40	27 10	29 76	6 43	6 05
The Province.....	157	159	163	251	250	254	16 99	16 91	17 87	26 50	26 04	27 25	6 28	6 05

The figures given above have been compiled as usual from returns made by farmers under the date of June 25 in each year. The schedule required that only those employing help should answer the queries. The rates per month are for the working season, and are not to be contrasted with wages for occasional daily help. The average rate of yearly engagements with board declined $2, not a single group showing an increase over 1887. Yearly engagements without board show a slight advance, while four of the groups show decreases. Wages per month both with and without board have improved somewhat, but are still below the average for the seven seasons 1882-8. Domestic servants got $6.28 per month with board, compared with $6.05 in 1887, only one group, the St. Lawrence and Ottawa, showing a small decrease. Farm wages as a rule are highest in the Northern Districts and lowest in the Lake Erie counties.

FROM THE MAY REPORT.

A. J. C. Shaw, Camden, Kent: Farmers are not hiring much about here this spring owing to the shortage of crops last year. Very few hands are hired for the winter months unless lumbering operations are being carried on.

Joseph Martindale, Oneida, Haldimand: We have a sufficient supply of farm laborers. The immigrant boys are making fine, steady men and good workers. I have had one with me for five years, and he is making a very good man.

Calvin Boyd, Enniskillen, Lambton: There is as yet but a moderate demand for farm laborers, and the supply is sufficient.

Alfred B. Carr, Wawanosh E., Huron: There are plenty of laborers to supply the demand. Wages are about $160 per year with board, or about $18 per month with board for a term of six or eight months. Machines are taking the place of men for the harvest.

John Booth, Normanby, Grey: There are plenty of laborers, such as they are; but the farmer of to-day is living on his capital and not on his income, and can ill afford to hire, as he has to do with as little as possible. Wages, by the year, are from $12 to $15 per month with board, and by the day 75 cents in mid-winter and $1 in summer, with board.

S. L. Montgomery, Tay, Simcoe: Farm laborers are hard to get here on account of so much lumbering, as men prefer the mills to the farms.

William Wright, McGillivray, Middlesex: There is a sufficient supply of farm laborers, but none are hiring unless absolutely compelled. Poor crops and low prices are preventing many from doing the work they would if money was more plentiful. With improved machinery manual help is not so much required.

Thomas Baird, Blandford, Oxford: There are plenty of farm hands, such as they are, but I think they get worse instead of better. Wages are much the same as they have been for the last two years.

W. M. Calder, Glanford, Wentworth: There is a sufficient supply of laborers. The quality of them is in some instances scarcely what it ought to be.

John Campbell, Chinguacousy, Peel: We have no lack of male but a scarcity of female help.

D. B. Nighswander, Markham, York: Good farm laborers are scarce. Tramp laborers are plentiful, but are not worth their bread and butter. Farmers are offering $20 per month with board for seven or eight months. There are not many men engaged without board.

Henry Glendinning, Brock, Ontario: There is, perhaps, a sufficient supply of labor to get through with the ordinary farm work, but many more men would be employed on the farms if they could be obtained to clean up swamp lands, put in drains and do such jobs. The ordinary hired man is above that kind of work. You can get them to plow, harrow, etc; they are willing to do what may be called the genteel work on the farm, but as a rule they are above working with a spade or shovel.

R. J. Spoor, Wolfe Island, Frontenac: There was a scarcity of laborers up to the 5th of May, when a few immigrants arrived, but they are a poor class.

Joseph Kyle, Hawkesbury, Prescott: Farm laborers are not so plentiful around here as they used to be. Farmers do not employ any help during the winter, and the laborers have gone to other places.

John Whelan, Brudenell and Lynedoch, Renfrew: Farmers mostly get along with their own help. I know of a few boys only (sons of small farmers) who are hired out, and they get from $16 to $17 per month and board. The picked men of the place are nearly all away on the drives on the different streams at wages ranging from $26 to $35 per month with board. Lots of farmers' sons are away on the drives also. The job generally lasts into the months of July and August, and a young man who cannot see a good prospect at home is very apt to take advantage of the big inducements offered to stream drivers in the spring.

C. Robertson, Cardwell, Muskoka: The supply of farm laborers is limited, owing to lumbermen offering higher rates of wages for river driving.

FROM THE AUGUST REPORT.

James H. Brown, Colchester S., Essex: The supply of farm laborers was sufficient. During the wheat harvest we paid good hands $1.50 a day and board.

R. Wilkie, Harwich, Kent: Hay loaders, horse forks, slings and binders have relieved the farmers of their old anxiety in haying and harvest, and wages are not much higher in harvest than in hoeing, which is the most driving season with us here now.

B. Kilmaster, Walsingham, Norfolk: Owing to the self-binder not much labor is required.

Arthur Simenton, Seneca, Haldimand: It is no trouble to get men to hire, and very few are required here.

Charles Henderson, Wainfleet, Welland: There is plenty of help at harvest time; $1.25 per day and board is paid.

A. A. Meyers, Sombra, Lambton: On account of improved machinery the supply has been sufficient. Few men are looking for work.

W. J. Martin, Wawanosh E., Huron: There are a great number of self-binders in this neighborhood, and very little hiring is now done.

W. G. Ritchie, Greenock, Bruce: We have had plenty of hands to handle the light crops of this season.

James Edmonstone, Sydenham, Grey: So much machinery is now used in harvesting, such as hay forks, mowers, reapers and binders, that a man and a boy are about all that are required on a large farm.

James A. Glen, Westminster, Middlesex: The labor supply is sufficient, and harvest hands receive $1.25 per day. There are so many binders and other labor-saving implements that there is but little extra help needed. Everything works like clock work.

Thomas A. Good, Brantford, Brant: Binders have taken the place of manual labor, and very few men are hired during harvest.

Christian T. Groh, Waterloo, Waterloo: Farm hands are none too numerous, but by the introduction of self-binders the farmer is enabled to put away his harvest with one-half the hands. Wages in haying, $1 per day; in harvest, $1.25 to $1.50.

A. H. Pettit, Grimsby N., Lincoln: The supply has been about equal to the demand, yet more good farm hands could have found employment.

Joseph Bates, Glanford, Wentworth: There are plenty of farm laborers at about $1.25 per day. A great many have employed old country lads at about $3 per month.

William Kersey, Toronto Gore, Peel: The supply more than equalled the demand. On account of the lightness of the crop and the improved machinery now in use very little extra help was required for the harvest. Wages are $1 per day, or $45 for the two months.

John Beasley, King, York: Self-binders and improved machinery have helped us wonderfully. Plenty of men are looking for work. Crop prospects being poor, farmers are hiring as little as possible.

Albert Orchard, Reach, Ontario: There seems to be plenty of men. There is not much day work—the binder saves that.

W. G. Rundle, Darlington, Durham: There has been a surplus of men this year, hardly a week passing without some one applying for work.

R. J. Dunlop, Pittsburg, Frontenac: Farm laborers were required less than usual on account of the lightness of the harvest.

W. Ferguson, Hawkesbury W., Prescott: Farm laborers were scarce enough in places at haying, but are more plentiful at present.

James F. Grierson, Torbolton, Carleton: The supply of farm laborers has been quite sufficient so far.

Gavin Hamilton, Ramsay, Lanark: There are so many self-binders in use here now that but little hired help is required.

Charles R. Stewart, Dysart, Haliburton: There have been plenty of hands. Mowing machines and hay rakes are now largely used. Wages were $1 a day for harvesting, or $18 per month for a term.

C. Robertson, Cardwell, Muskoka: There was plenty of farm labor. Machinery is being introduced, and the work can be done with fewer hands.

FROM THE NOVEMBER REPORT.

Herbert Manery, Mersea, Essex: There will be no difference in the rate of wages here. There is a sufficiency of work all the year round for what men we have here. Domestic servants are very scarce.

E. B. Tole, Harwich, Kent: There are plenty of farm laborers here. I do not look for much change in wages. There is only a fair supply of domestic servants.

Arch. McKillop, Aldborough, Elgin: Wages are likely to remain stationary, because farmers cannot afford to pay more and workers will not take less. Domestic servants are fearfully scarce. Detroit takes them all, where they get better pay for less work.

W. W. Wells, Woodhouse, Norfolk: The supply of farm laborers was about equal to the demand. If present prices stand wages will likely rise. There are just about enough domestic servants.

Andrew Turnbull, Seneca, Haldimand: The supply of farm laborers was sufficient. The rate of wages is likely to stand. The supply of domestic servants is equal to the demand.

John A. Law, Stamford, Welland: The self-binder is in general use in this township, and does away with many hands on the farm. The rate of wages will keep up as farm hands have a tendency to go to towns and villages for work. Domestic servants are scarce and wages high.

Wm. Bryce, Warwick, Lambton: There were enough farm laborers for the work. Wages are likely to fall owing to the cheapness and perfection of machinery. Household servants on the farm are very scarce. Girls all prefer the town or city.

G. Fortune, Turnberry, Huron: The supply of farm laborers was sufficient. Wages are likely to remain about the same as now. The supply of domestic servants has been scarce.

Hugh Murray, Bruce, Bruce: The supply of farm laborers was equal to the demand; the use of binders in harvest has done away with the old time trouble. There is no prospect of an increase of wages, as there is no work of any account going on in the winter. Domestic servants are scarce. Young women appear to think the work degrading, particularly near home, and if they engage in it at all they prefer cities or towns.

Wm. Irvine, Bentinck, Grey: The supply of farm laborers was sufficient this year. I see no likelihood of much change in wages. We might have a good supply of domestic servants, but Toronto outbids us so much in wages and other attractions that the supply here is not equal to the demand.

Basil R. Rowe, Orillia, Simcoe: The supply of laborers was equal to the demand. Wages are about the same as last year, and seem likely to remain at that rate. Domestic servants are in demand, as usual.

John McPherson, Lobo, Middlesex: We do not need many laborers now. Plenty of machinery leaves the farmer master of the situation. Wages may rise a little on account of the advance in the price of all produce. Girls are as scarce as ever; they go to the towns and factories.

Wm. Jamieson, Westminster, Middlesex: The supply of farm laborers was fully equal to the demand. The rate of wages may increase from the fact that the extension of the C. P. R. from London to Detroit is likely to be pushed onward forthwith. The supply of domestic servants is equal to the demand.

Wm. Gerrie, Oxford N., Oxford: Wages may fall a little during the winter, but I see no reason why they should fall during the spring. Domestic servants are always in demand.

John Rae, Eramosa, Wellington: If the value of produce increases wages will also advance. Girls are hard to get to work in farm houses, as they can obtain higher wages in towns and cities.

Christian T. Groh, Waterloo, Waterloo: Laborers could be had as needed by the day from the villages. Wages will likely experience no change, as there are no new industries in this section to afford employment to day laborers. Regarding domestic servants, it is the same old story—they want to go to the towns.

W. H. VanDuzer, Grimsby N., Lincoln: The supply of farm laborers seemed equal to the demand through the summer, but they are a little scarce now, owing to the absence of machinery that will pick apples, husk and draw corn, pull and top roots, etc., compared with the binders, mowers, etc., used during summer. It is almost out of the question to get a good girl as a domestic servant.

George Hart, Saltfleet, Wentworth: The supply of farm laborers was equal to the demand. Wages are likely to remain about the same. Domestic servants are scarce, and the kind of immigrants that come from the old country are as a rule of no use here.

Edwin Dalton, Nelson, Halton: The supply was equal to the demand. The rates of wages are not likely to change. The supply of domestic servants is about sufficient.

William Kersey, Toronto Gore, Peel: There has been a scarcity of good men this season, but there was quite a number of useless men and immigrants who wanted full pay. Many farmers did not wish to be annoyed with them. More of them might be employed if they were willing to take what they are worth for a while until they learned something about farming.

Angus Ego, Georgina, York: I have not heard of any complaints of scarcity of field help. The self-binder has made a great change in that line. I cannot say what wages will be next spring, but I cannot see anything to make any marked change in the present rate. As for domestic servants, there is the same old cry, "None to be had." Young women fly to Toronto, where there is plenty of company.

Thomas Syer, Manvers, Durham: The supply of farm laborers seems to be about equal to the demand, and wages are not likely to be any higher than at present. Domestic servants seem to be harder to get than any other class.

John Williams, Hamilton, Northumberland: The present indications are that wages will fall, as laborers are plentiful, and the farmers cannot afford to pay higher wages with their present returns. Domestic servants are rather scarce, and they command high wages.

W. R. Leavens, Hallowell, Prince Edward: The supply of farm laborers was fully equal to the demand. I do not think any material change will occur in regard to wages. It is very hard to find good domestic servants, and those who are lucky enough to get one usually keep her.

Thomas Briggs, Kingston, Frontenac: Farm laborers were scarce. The rate of wages is higher than farmers feel able to pay, and the tendency is toward higher wages. Domestic servants are scarce.

George Ellis, Leeds and Lansdowne Rear, Leeds and Grenville: The best farmers saved their crops with less help than I ever saw before. Female help is very scarce. They prefer to go to the cities rather than work for farmers.

John McRae, Roxborough, Stormont: The supply of farm laborers was sufficient. The rate of wages is likely to fall, as the supply of timber along the C. A. R. is getting scarce, and a number of men have obtained steady and profitable employment along that line during the past few years. The number of domestic servants has been equal to the demand, and there have been a few to spare for the cities.

D. B. McMillan, Lochiel, Glengarry: The supply of farm laborers was about equal to the demand. Wages will likely remain about the same. There is a sufficiency of domestic servants.

Harrison Cross, Hawkesbury W., Prescott: The supply of farm laborers was not equal to the demand this year. Wages were very high here, and are likely to be higher next year, as there are so many laboring men employed in lumbering and working in the mills. Domestic servants are very scarce here. They mostly flock to the cities.

T. M. Robertson, Nepean, Carleton: The supply of farm laborers was about sufficient. Wages will likely remain as they are, as the demand for men in the lumber regions will rule the labor market. Domestic servants are hard to get.

John Whelan, Brudenell and Lynedoch, Renfrew: Wages are likely to fall, as farmers here, with few exceptions, keep no hands in the winter, and there has been a considerable falling off in lumbering operations in this locality. There are sufficient domestic servants at good wages.

A. F. Stewart, Beckwith, Lanark: I think wages will keep about the same, because farmers use so much machinery and that will prevent a rise, and, on the other hand, the fact that this is a lumbering centre will keep wages from falling.

John A. Jackson, Eldon, Victoria: There were sufficient farm laborers this year. I don't think wages are likely to vary much from what they have been for the past few years. Domestic servants are generally hard to get, and often are of a poor quality.

William Armstrong, Otonabee, Peterborough: There were enough farm laborers. Wages have been about the same for the past two or three years, and I see no reason why there should be a change. Domestic servants are hard to get.

Anson Latta, Thurlow, Hastings: The supply of farm laborers is quite equal to the demand. I cannot see how there can be much change. The laborer is but getting what he can barely subsist upon, yet he is getting all that can be very well paid. Domestic servants are very scarce and dear. As most of our girls think they were calculated for something higher and nobler, they seem to look upon domestic service as degrading.

Donald Grant, Monck, Muskoka: Farm laborers were scarce this season. Lumbermen are paying high wages this winter, and that will keep farm wages high. Domestic servants are very scarce.

STATISTICS OF

VALUES, RENT AND FARM WAGES.

VALUES—FARM LAND.

TABLE No. I.—Showing by County Municipalities and groups of Counties the Value of Farm Land in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8.	
	Value.	Value per acre.	Value.	Value. per acre.	Value.	Value per acre.
	$	$ c.	$	$ c.	$	$ c.
Essex	15,898,606	36 84	15,379,951	35 70	15,131,191	35 34
Kent	23,695,456	42 16	24,005,837	42 68	24,023,313	42 79
Elgin	18,094,749	41 08	18,239,924	41 90	18,751,880	42 83
Norfolk	11,882,035	30 08	11,699,328	29 22	12,148,289	30 72
Haldimand	9,555,471	33 95	9,918,300	35 23	9,720,098	34 62
Welland	8,796,445	38 61	9,007,404	39 14	8,945,409	39 49
Totals	87,922,762	37 60	88,250,744	37 71	88,720,180	38 08
Lambton	20,065,784	30 41	19,616,111	29 52	20,415,576	31 26
Huron	31,668,697	39 62	32,681,464	40 91	32,361,454	40 61
Bruce	21,411,230	26 38	22,466,377	27 63	22,967,137	28 11
Totals	73,145,711	32 21	74,763,952	32 84	75,744,167	33 41
Grey	22,577,423	21 37	22,894,301	21 63	23,327,546	21 91
Simcoe	26,718,399	28 00	25,976,347	27 00	26,030,171	27 27
Totals	49,295,822	24 51	48,870,648	24 19	49,357,717	24 45
Middlesex	36,670,045	48 38	37,339,199	49 29	38,199,492	50 44
Oxford	23,240,548	49 31	23,794,718	50 48	24,199,289	51 42
Brant	10,877,610	50 36	10,673,619	48 99	10,884,904	50 35
Perth	22,638,986	43 68	23,150,981	44 70	23,011,312	44 43
Wellington	22,494,471	35 87	22,278,062	35 50	22,304,395	35 61
Waterloo	14,870,921	48 66	14,664,715	47 70	14.979,629	48 96
Dufferin	9,006,102	25 29	8,680,520	24 31	8,781,867	24 69
Totals	139,798,683	42 98	140,581,814	43 17	142,360,888	43 80
Lincoln	9,002,435	47 16	8,892,038	46 44	8,813,312	46 31
Wentworth	14,042,942	51 39	13,700,678	50 27	13,701,485	50 16
Halton	9,353,110	41 84	9,305,919	41 48	9,300,221	41 53
Peel	14,148,232	49 11	13,942,859	48 32	13,364,731	46 37
York	29,589,569	54 85	28,091,435	52 23	29,395,639	54 52
Ontario	20,934,175	41 73	20,315,836	40 72	20,977,290	42 11
Durham	17,210,938	46 67	16,754,389	45 40	16,765,111	45 51
Northumberland	16,454,570	38 02	15,430,332	35 40	16,057,470	37 08
Prince Edward	9,160,022	39 33	9,653,010	41 26	9,520,889	41 09
Totals	139,895,993	45 85	136,086,496	44 58	137,896,148	45 27
Lennox and Addington	10,332,955	25 39	10,114,970	24 97	10,602,253	26 50
Frontenac	9,297,341	14 01	8,542,850	13 11	9,025,867	13 90
Leeds and Grenville	18,676,267	25 12	18,695,222	25 33	17,645,900	23 72
Dundas	8,677,340	36 53	8,593,825	36 14	8,312,656	35 09
Stormont	6,394,116	25 57	6,671,119	26 86	6,073,885	24 39
Glengarry	8,080,701	28 23	7,817,343	27 01	7,014,347	24 26
Prescott	6,736,067	23 73	6,800,185	23 94	6,202,098	21 78
Russell	4,296,339	16 92	4,679,068	18 47	4,505,305	17 97
Carleton	16,342,996	28 71	15,627,555	27 72	14,772,307	26 25
Renfrew	6,942,933	7 85	6,526,211	7 53	6,062,456	7 23
Lanark	9,107,268	13 76	8,759,374	13 30	7,736,389	11 84
Totals	104,884,323	20 01	102,827,722	19 79	97,953,463	18 99
Victoria	12,808,752	22 51	12,850,011	22 79	12,968,439	23 01
Peterborough	11.016,942	20 35	11,192,602	20 99	11,029,260	20 89
Haliburton	892,767	1 59	945,117	1 70	767,448	1 42
Hastings	16,216,522	16 87	15,912,536	16 55	16,495,948	17 90
Totals	40,934,983	15 55	40,900.266	15 64	41,261,095	16 15
Muskoka	1,990,435	3 91	2,069,605	4 11	2,017,397	4 13
Parry Sound	1,013,354	3 31	1,142,481	4 47	986,893	4 07
Algoma	1,598,735	5 06	1,390,027	4 93	1,475,000	4 72
Totals	4,602,524	4 07	4,602,113	4 42	4,479,290	4 30
The Province	640,480,801	29 21	636,883,755	29 22	637,772,948	29 43

VALUES—FARM BUILDINGS.

TABLE No. II.—Showing by County Municipalities and groups of Counties the Value of Farm Buildings in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8.	
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.
	$	$ c.	$	$ c.	$	$ c.
Essex	4,074,755	9 44	3,656,365	8 49	3,380,131	7 89
Kent	5,201,284	9 25	5,015,245	8 92	4,914,736	8 75
Elgin	4,779,887	10 85	4,823,847	11 08	4,629,086	10 57
Norfolk	4,044,551	10 24	3,875,286	9 68	3,881,372	9 82
Haldimand	3,453,012	12 27	3,322,395	11 80	3,203,464	11 41
Welland	3,083,137	13 53	3,220,343	13 99	3,011,806	13 30
Totals	24,636,626	10 54	23,913,481	10 22	23,020,595	9 88
Lambton	4,503,092	6 83	4,170,425	6 28	3,980,352	6 10
Huron	8,326,194	10 42	8,358,211	10 46	7,742,345	9 72
Bruce	5,888,984	7 26	6,067,257	7 46	5,324,891	6 52
Totals	18,718,270	8 24	18,595,893	8 17	17,047,588	7 52
Grey	6,793,100	6 43	6,683,760	6 31	6,219,920	5 84
Simcoe	7,438,384	7 80	6,661,292	6 92	6,388,845	6 69
Totals	14,231,484	7 08	13,345,052	6 60	12,608,765	6 24
Middlesex	10,134,491	13 37	9,694,804	12 80	9,364,204	12 37
Oxford	6,993,153	14 84	6,997,516	14 84	6,711,657	14 26
Brant	3,689,783	17 08	3.580,635	16 43	3,500,614	16 19
Perth	6,464,730	12 47	6,503,456	12 56	6,016,155	11 61
Wellington	6,926,504	11 04	6,909,296	11 01	6,439,207	10 28
Waterloo	4,797,218	15 70	4,861,550	15 81	4,687,124	15 32
Dufferin	2,394,261	6 72	2,239,423	6 27	2,049,408	5 76
Totals	41,400,140	12 73	40,786,680	12 52	38,768,369	11 93
Lincoln	3,427,323	17 96	3,350,638	17 50	3,175,477	16 69
Wentworth	4,653,060	17 03	4,917,668	18 04	4,546,461	16 64
Halton	3,143,520	14 06	3,260,482	14 53	3,107,179	13 88
Peel	4,670,283	16 21	4,367,504	15 14	4,049,230	14 05
York	7,964,689	14 76	8,128,225	15 11	7,933,538	14 72
Ontario	5,799,452	11 56	5,666,425	11 36	5,487,261	11 01
Durham	4,368,251	11 84	4,565,108	12 37	4,333,017	11 76
Northumberland	5,352,004	12 37	5,139,670	11 79	4,761,195	10 99
Prince Edward	3,092,697	13 28	3,526,392	15 07	3,093,995	13 35
Totals	42,471,279	13 92	42,922,112	14 06	40,487,353	13 29
Lennox and Addington	3,409,029	8 38	3,201,766	7 90	3,008,605	7 52
Frontenac	2,939,284	4 43	2,752,964	4 23	2,644,410	4 07
Leeds and Grenville	6,418,667	8 63	6,330,796	8 58	5,616,163	7 55
Dundas	2,884,071	12 14	2,526,069	10 62	2,351,693	9 93
Stormont	2,038,080	8 15	2,250,030	9 06	1,905,923	7 65
Glengarry	2,355,019	8 23	2,486,182	8 59	2,089,868	7 23
Prescott	1,936,775	6 82	2,028,937	7 14	1,683,377	5 91
Russell	1,367,775	5 39	1,225,426	4 84	1,050,799	4 19
Carleton	4,660,392	8 18	4,519,097	8 01	3,992,671	7 09
Renfrew	2,515,139	2 84	2,303,609	2 66	2,120,987	2 53
Lanark	3,176,835	4 80	3,009,847	4 57	2,627,449	4 02
Totals	33,701,066	6 43	32,634,723	6 28	29,091,945	5 64
Victoria	3,127,620	5 50	3,215,496	5 70	2,894,535	5 13
Peterborough	3,339,571	6 17	3,044,925	5 71	2,787,952	5 28
Haliburton	246,591	0 44	286,853	0 51	218,195	0 40
Hastings	5,306,060	5 52	4,889,315	5 09	4,655,982	5 05
Totals	12,019,842	4 56	11,436,589	4 37	10,556,664	4 13
Muskoka	565,163	1 11	581,783	1 16	516,423	1 06
Parry Sound	200,858	0 66	208,733	0 82	223,416	0 92
Algoma	348,498	1 10	328,461	1 17	307,743	0 99
Totals	1,114,519	0 98	1,118,977	1 08	1,047,582	1 00
The Province	188,293,226	8 58	184,753,507	8 47	172,628,861	7 97

VALUES—FARM IMPLEMENTS.

TABLE No. III.—Showing by County Municipalities and groups of Counties the value of Farm Implements in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8.	
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.
	$	$ c.	$	$ c.	$	$ c.
Essex	1,042,198	2 42	952,230	2 22	934,922	2 18
Kent	1,505,851	2 68	1,387,806	2 47	1,390,364	2 48
Elgin	1,226,683	2 78	1,231,424	2 83	1,197,325	2 74
Norfolk	1,013,366	2 56	1,014,822	2 54	969,318	2 45
Haldimand	913,257	3 25	974,162	3 46	879,249	3 13
Welland	839,041	3 68	772,993	3 36	743,930	3 28
Totals	6,540,396	2 80	6,333,437	2 70	6,115,108	2 62
Lambton	1,241,082	1 88	1,167,733	1 76	1,141,894	1 75
Huron	2,373,756	2 97	2,290,314	2 87	2,193,311	2 75
Bruce	1,721.220	2 12	1,727,439	2 13	1,563,695	1 91
Totals	5,336,058	2 35	5,185,486	2 28	4,898,900	2 16
Grey	2,110,262	2 00	2,138,071	2 02	1,975,963	1 86
Simcoe	2,206,113	2 31	2,042,670	2 12	1,951,735	2 04
Totals	4,316,375	2 15	4,180,741	2 07	3,927,698	1 95
Middlesex	2,432,318	3 21	2,435,664	3 21	2,424,640	3 20
Oxford	1,575,509	3 34	1,559,715	3 31	1,557,643	3 31
Brant	807,558	3 74	763,211	3 50	815,312	3 77
Perth	1,713,836	3 31	1,769,954	3 42	1,688,469	3 26
Wellington	1,879,764	3 00	1,802,340	2 87	1,795,307	2 86
Waterloo	1,164,533	3 81	1,164,072	3 79	1,143,320	3 74
Dufferin	685,055	1 93	668,026	1 87	661,599	1 86
Totals	10,258,573	3 16	10,162,982	3 12	10,086,290	3 10
Lincoln	787,224	4 12	809,180	4 22	770,516	4 05
Wentworth	1,132,877	4 15	1,191,694	4 37	1,094,655	4 01
Halton	722,813	3 24	832,810	3 71	762,819	3 41
Peel	1,085,907	3 77	1,055,144	3 66	1,022,795	3 55
York	2,102,919	3 90	1,988,155	3 70	1,931,347	3 58
Ontario	1,456,459	2 91	1,519,675	3 05	1,399,022	2 81
Durham	1,123,690	3 05	1,187,621	3 22	1,117,368	3 03
Northumberland	1,286,344	2 97	1,385,847	3 18	1,209,943	2 79
Prince Edward	753,372	3 23	914,094	3 91	790,840	3 41
Totals	10,451,605	3 42	10,884,220	3 57	10,099,305	3 32
Lennox and Addington	780,410	1 92	814,747	2 01	782,287	1 96
Frontenac	875,378	1 32	790,143	1 21	773,662	1 19
Leeds and Grenville	1,574,001	2 12	1,517,858	2 06	1,416,135	1 90
Dundas	665,589	2 80	631,376	2 66	592,886	2 50
Stormont	552,503	2 21	508,093	2 05	496,993	2 00
Glengarry	682,988	2 38	674,194	2 33	607,205	2 10
Prescott	594,899	2 10	615,900	2 17	503,334	1 77
Russell	330,953	1 30	399,072	1 58	336,686	1 34
Carleton	1,310,794	2 30	1,312,188	2 33	1,201,764	2 14
Renfrew	878,668	0 99	813,341	0 94	710,786	0 85
Lanark	882,676	1 33	871,307	1 32	757,425	1 16
Totals	9,128,859	1 74	8,948,219	1 72	8,179,163	1 59
Victoria	976,454	1 72	899,108	1 60	859,080	1 52
Peterborough	827,593	1 53	761,710	1 43	711,587	1 35
Haliburton	71,889	0 13	73,324	0 13	61,562	0 11
Hastings	1,455,640	1 52	1,470,722	1 53	1,355,442	1 47
Totals	3,331,576	1 26	3,204,864	1 23	2,987,671	1 17
Muskoka	191,924	0 38	183,027	0 36	159,528	0 33
Parry Sound	78,094	0 25	71,393	0 28	79,190	0 33
Algoma	121,372	0 38	93,928	0 33	108,125	0 35
Totals	391,390	0 35	348,348	0 33	346,843	0 33
The Province	49,754,832	2 27	49,248,297	2 26	46,640,978	2 15

VALUES—FARM LIVE STOCK.

TABLE No. IV.—Showing by County Municipalities and groups of Counties the value of Farm Live Stock in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8.	
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.
	$	$ c.	$	$ c.	$	$ c.
Essex	2,318,121	5 37	2,115,809	4 91	2,040,703	4 77
Kent	3,219,875	5 73	3,005,242	5 34	2,908,565	5 18
Elgin	2,568,539	5 83	2,580,528	5 93	2,580,851	5 89
Norfolk	1,897,184	4 80	1,888,416	4 72	1,810,450	4 58
Haldimand	1,724.044	6 13	1,836.938	6 53	1,728,744	6 16
Welland	1,403,754	6 17	1,428,057	6 21	1,330,114	5 87
Totals	13,131,517	5 61	12,854,990	5 49	12,399,427	5 32
Lambton	2,829,656	4 29	2,696,205	4 06	2,670,906	4 09
Huron	5,492,977	6 87	5,401,353	6 76	5,280,121	6 63
Bruce	3,977,591	4 90	3,986,288	4 90	3,742,956	4 58
Totals	12,300,224	5 42	12,083,846	5 31	11,693,983	5 16
Grey	4,779,237	4 52	4,811,960	4 54	4,674,700	4 39
Simcoe	4,152,404	4 35	4,039,337	4 20	3,931,319	4 12
Totals	8,931,641	4 44	8,851,297	4 38	8,606,019	4 26
Middlesex	5,360,283	7 07	5,943,174	7 85	5,792,869	7 65
Oxford	3,424,787	7 27	3,516,155	7 46	3,549,251	7 54
Brant	1,552,212	7 19	1,712,932	7 86	1,596,660	7 39
Perth	3,764,946	7 26	3,888,851	7 51	3,766,841	7 27
Wellington	4,095,102	6 53	4,277,834	6 82	4,094,634	6 54
Waterloo	2,162,630	7 08	2,211,039	7 19	2,167,321	7 08
Dufferin	1,500,561	4 21	1,407,585	3 94	1,450.022	4 08
Totals	21,860,521	6 72	22,957,570	7 05	22,417,598	6 90
Lincoln	1,361,439	7 13	1,395,760	7 29	1,342.463	7 05
Wentworth	2,022,955	7 40	2,311,020	8 48	2,050,552	7 50
Halton	1,438,758	6 44	1,552,678	6 92	1,549,445	6 92
Peel	2,184,681	7 58	2,241.112	7 77	2,065,449	7 16
York	4,046,784	7 50	3,897,620	7 25	3,918,634	7 27
Ontario	3,295,941	6 57	3,504,285	7 02	3.331,234	6 69
Durham	2,305,294	6 25	2,334,645	6 32	2,329,506	6 33
Northumberland	2,483,617	5 74	2,569,770	5 90	2,385,440	5 51
Prince Edward	1,333,903	5 73	1,416,111	6 05	1,262,954	5 45
Totals	20,473,372	6 71	21,223,001	6 95	20,235,680	6 64
Lennox & Addington	1,479,883	3 64	1,607,787	3 97	1,448,634	3 62
Frontenac	1,588,342	2 40	1,598,146	2 45	1,464,963	2 26
Leeds & Grenville	3,297,944	4 43	3,348,504	4 54	3,114,119	4 18
Dundas	1,299,849	5 47	1,348,360	5 67	1,216,333	5 14
Stormont	1,148,605	4 59	1,131,390	4 56	1,047,355	4 21
Glengarry	1,427,664	4 99	1,405,510	4 86	1,312,391	4 54
Prescott	1,084,877	3 82	1,084,980	3 82	998,068	3 50
Russell	705,147	2 78	729,735	2 88	690,506	2 76
Carleton	2,464,534	4 33	2,461,981	4 37	2,315,730	4 12
Renfrew	1,982,655	2 24	1,975,154	2 28	1,758,149	2 10
Lanark	1,819,518	2 75	2,000,924	3 04	1,787,411	2 73
Totals	18,299,018	3 49	18,692,471	3 60	17,153,659	3 32
Victoria	2,036.334	3 58	2,086,252	3 70	1,951,028	3 46
Peterborough	1,649,612	3 05	1,728,157	3 24	1,595,094	3 02
Haliburton	197.570	0 35	233,940	0 42	203,225	0 38
Hastings	3,009,918	3 13	2,710,919	2 82	2,621,771	2 85
Totals	6,893,434	2 62	6,759,268	2 58	6,371,118	2 50
Muskoka	457,755	0 90	517,399	1 03	455,655	0 93
Parry Sound	200,189	0 66	207,524	0 81	221,464	0 92
Algoma	291,564	0 92	259,289	0 92	284,658	0 91
Totals	949,508	0 84	984,212	0 95	961,777	0 92
The Province	102,839,235	4 69	104,406,655	4 79	99,839,261	4 61

VALUES—FARM PROPERTY.

TABLE No. V.—Showing by County Municipalities and groups of Counties the value of Farm Property (Land, Buildings, Implements and Live Stock) in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value per acre.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8	
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.
	$	$ c.	$	$ c.	$	$ c.
Essex	23,333,680	54 07	22,104,355	51 32	21,486,947	50 18
Kent	33,622,460	59 82	33,414,130	59 41	33,236,978	59 20
Elgin	26,669,858	60 54	26,875,723	61 74	27,159,142	62 03
Norfolk	18,837,136	47 68	18,477,852	46 16	18,809,429	47 57
Haldimand	15,645,784	55 60	16,051,795	57 02	15,531,555	55 32
Welland	14,122,377	61 99	14,428,797	62 70	14,031,259	61 94
Totals	132,231,301	56 55	131,352,652	56 12	130,255,310	55 90
Lambton	28,639,614	43 41	27,650,474	41 62	28,208,728	43 20
Huron	47,861,624	59 88	48,731,342	61 00	47,577,231	59 71
Bruce	32,999,025	40 66	34,247,361	42 12	33,598,679	41 12
Totals	109,500,263	48 22	110,629,177	48 60	109,384,638	48 25
Grey	36,260,022	34 32	36,528,092	34 50	36,198,129	34 00
Simcoe	40,515,300	42 46	38,719,646	40 24	38,302,070	40 12
Totals	76.775,322	38 18	75,247,738	37 24	74,500,199	36 90
Middlesex	54,597,137	72 03	55,412,841	73 15	55,781,205	73 66
Oxford	35,233,997	74 76	35,868,104	76 09	36,017,840	76 53
Brant	16,927,163	78 37	16,730,397	76 78	16,797,490	77 70
Perth	34,582,498	66 72	35,313,242	68 19	34,482,777	66 57
Wellington	35,395,841	56 44	35,267,532	56 20	34,633,543	55 29
Waterloo	22,995,302	75 25	22,901,376	74 49	22,977,394	75 10
Dufferin	13,585,979	38 15	12,995,554	36 40	12,942,896	36 39
Totals	213,317,917	65 59	214,489,046	65 86	213,633,145	65 73
Lincoln	14,578,421	76 37	14,447,616	75 45	14,101,768	74 10
Wentworth	21,851,834	79 97	22,121,060	81 16	21,393,153	78 31
Halton	14,658,201	65 58	14,951,889	66 94	14,719,667	65 76
Peel	22,089,103	76 67	21.606,619	74 89	20,502,205	71 13
York	43,703,961	81 01	42,105,435	78 29	43,179,158	80 09
Ontario	31,486,027	62 77	31,006,221	62 15	31,194,807	62 62
Durham	25,008,173	67 81	24,841,763	67 31	24,545,002	66 63
Northumberland	25,576,535	59 10	24,525,619	56 27	24,414,048	56 37
Prince Edward	14,339,994	61 57	15,509,607	66 29	14,668,678	63 30
Totals	213,292,249	69 90	211,115,829	69 16	208,718,486	68 52
Lennox and Addington	16,002,277	39 33	15,739,270	38 85	15,841,779	39 60
Frontenac	14,700,345	22 16	13,684,103	21 00	13,908,902	21 42
Leeds and Grenville	29,966,879	40 30	29,892,380	40 51	27,792,317	37 35
Dundas	13,526,849	56 94	13,099,630	55 09	12,473,568	52 66
Stormont	10,133,304	40 52	10,560,632	42 53	9,524,156	38 25
Glengarry	12,546,372	43 83	12,383,229	42 79	11,023,811	38 13
Prescott	10,352,618	36 47	10,530,002	37 07	9,386,877	32 96
Russell	6,700,214	26 39	7,033,301	27 77	6,583,296	26 26
Carleton	24,778,716	43 52	23,920,821	42 43	22,282,472	39 60
Renfrew	12,319,395	13 92	11,618,315	13 41	10,652,378	12 71
Lanark	14,986,297	22 64	14,641,452	22 23	12,908,674	19 75
Totals	166,013,266	31 67	163,103,135	31 39	152,378,230	29 54
Victoria	18,949,160	33 31	19,050,867	33 79	18,673,082	33 12
Peterborough	16,833,718	31 10	16,727,394	31 37	16,123,893	30 54
Haliburton	1,408,817	2 51	1,539,234	2 76	1,250,430	2 31
Hastings	25,988,140	27 04	24,983,492	25 99	25,129,143	27 27
Totals	63,179,835	23 99	62,300,987	23 82	61,176,548	23 95
Muskoka	3,205,277	6 30	3,351,814	6 66	3,149,003	6 45
Parry Sound	1,492,495	4 88	1.630,131	6 38	1,510,963	6 24
Algoma	2,360,169	7 46	2,071,705	7 35	2,175,526	6 97
Totals	7,057,941	6 24	7,053,650	6 78	6,835,492	6 55
The Province	981,368,094	44 75	975,292,214	44 74	956,882,048	44 16

VALUES—RENT OF LEASED FARMS.

TABLE No. VI.—Showing by County Municipalities and groups of Counties the average area, value and rental of leased farms in Ontario as reported in the year 1888, also the average per acre for 1886, 1887 and 1888.

Counties.	Per cent. returned as leased.	Average area of leased farm.		Average value of leased farm.		Average yearly rental.	Rent per acre based on—					
							Acres occupied.			Acres cleared.		
		Acres occupied	Acres cleared.	Land.	Buildings.		1888	1887	1886	1888	1887	1886
				$	$	$	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Essex	14.2	105.9	65.7	4,174	1,280	191	1 81	1 83	1 66	2 91	2 88	2 94
Kent	13.3	100.2	73.6	4,888	1,168	258	2 57	2 55	2 69	3 50	3 55	3 99
Elgin	14.9	128.8	95.2	5,306	1,237	285	2 22	2 21	2 09	3 00	3 06	3 20
Norfolk	12.1	125.7	86.2	4,003	1,264	237	1 88	1 64	1 95	2 75	2 25	2 60
Haldimand	12.8	107.3	84.0	3,592	1,264	194	1 81	1 85	1 91	2 31	2 48	2 51
Welland	10.0	92.7	73.5	3,176	1,245	181	1 95	2 06	2 00	2 46	2 67	2 56
Group	13.1	111.2	80.2	4,371	1,236	233	2 10	2 07	2 13	2 91	2 88	3 05
Lambton	9.8	113.5	71.4	3,971	1,033	200	1 76	1 81	2 03	2 80	2 82	3 09
Huron	12.2	119.1	91.6	5,057	1,370	250	2 10	2 32	2 17	2 73	3 09	2 94
Bruce	11.8	119.2	86 3	3,748	1,114	208	1 74	1 64	1 86	2 41	2 31	2 64
Group	11.5	117.9	85.3	4,357	1,206	224	1 90	1 94	2 03	2 62	2 74	2 86
Grey	10.7	116.1	77.8	2,704	875	150	1 29	1 30	1 29	1 93	1 94	1 96
Simcoe	14.7	113.9	83.0	3,796	1,010	216	1 90	1 89	1 75	2 60	2 62	2 54
Group	12.3	115.0	80.2	3,210	938	181	1 57	1 55	1 48	2 25	2 25	2 21
Middlesex	11.1	115.5	89.6	5,520	1,497	304	2 63	2 57	2 41	3 40	3 54	3 40
Oxford	14.6	121.9	92.9	5,918	1,705	329	2 70	2 77	2 76	3 54	3 56	3 67
Brant	14.2	125.0	102.6	6,480	1,820	345	2 76	2 99	2 80	3 36	3 64	3 47
Perth	11.6	114.4	90.0	5,131	1,357	278	2 43	2 30	2 50	3 09	2 92	3 22
Wellington	15.1	129.7	102.7	5,050	1,496	272	2 10	1 87	1 92	2 65	2 52	2 57
Waterloo	12.1	128.9	103.1	5,872	2,041	288	2 24	2 29	2 37	2 80	2 98	2 92
Dufferin	23.6	159.9	108.2	4,274	1,068	228	1 43	1 61	1 43	2 11	2 49	2 18
Group	14.4	125.5	96.8	5,425	1,547	293	2 33	2 32	2 28	3 02	3 06	3 06
Lincoln	11.0	81.2	67.4	3,454	1,291	196	2 41	2 24	2 48	2 91	2 81	2 92
Wentworth	13.9	102.9	81.4	5,201	1,440	282	2 74	2 35	2 71	3 46	2 93	3 29
Halton	14.6	124.8	96.1	5,366	1,774	289	2 32	2 29	2 24	3 01	2 91	2 92
Peel	19.5	132.1	107.9	6,359	1,825	373	2 83	2 64	2 75	3 46	3 23	3 28
York	28.5	111.6	93.1	6,096	1,482	338	3 03	2 97	3 28	3 63	3 63	3 92
Ontario	23.8	117.8	96.6	5,907	1,625	333	2 83	2 83	2 85	3 45	3 46	3 64
Durham	25.1	129.2	109.3	6,674	1,636	399	3 09	2 85	3 19	3 65	3 40	3 87
Northumberland	16.8	120.2	98.0	4,586	1.400	265	2 20	2 21	2 21	2 70	2 75	2 81
Prince Edward	13.0	123.1	97.6	5,254	1,465	288	2 34	1 84	2 57	2 95	2 37	3 18
Group	19.2	115.6	94.7	5,613	1,547	317	2 75	2 62	2 83	3 35	3 22	3 47
Lennox & Addington	12.2	168.1	106.4	4,595	1,576	233	1 38	1 72	2 23	2 19	2 50	2 82
Frontenac	9.9	113.7	71.9	2,627	1,017	142	1 25	1 08	1 49	1 98	1 82	2 22
Leeds and Grenville	8.1	122.0	71.4	3,170	1,192	159	1 30	1 63	1 49	2 23	2 37	2 28
Dundas	16.4	116.6	80.3	4,836	1,719	214	1 84	1 67	1 62	2 67	2 65	2 94
Stormont	12.1	102.2	73.3	2,863	1,000	149	1 46	1 50	1 43	2 04	2 42	2 20
Glengarry	6.3	160.0	90.9	4,563	1,188	221	1 38	1 40	1 52	2 43	2 31	2 40
Prescott	12.8	140.2	94.8	4,472	1,536	212	1 51	1 60	1 49	2 23	2 32	2 34
Russell	20.2	136.9	81.6	3,379	1,143	165	1 21	1 18	1 21	2 03	2 14	2 77
Carleton	7.2	103.5	76.3	3,740	1,367	216	2 09	1 72	1 68	2 83	2 49	2 54
Renfrew	6.5	183.0	81.7	2,199	598	142	0 78	0 62	0 85	1 74	1 60	1 83
Lanark	6.4	154.7	99.4	2,259	912	146	0 94	0 76	0 78	1 47	1 45	1 30
Group	9.3	133.8	82.4	3,480	1,220	178	1 33	1 33	1 43	2 16	2 21	2 34
Victoria	20.4	141.0	95.4	4,335	1,050	266	1 88	2 07	2 02	2 78	2 96	3 01
Peterborough	14.1	160.7	99.4	4,124	1,089	224	1 39	1 18	0 97	2 25	1 97	1 83
Haliburton	4.4	235.8	46.3	1,138	349	70	0 30	0 25	0 34	1 51	1 42	1 22
Hastings	11.6	122.7	82.7	3,985	1,143	223	1 82	1 64	2 04	2 70	2 50	3 12
Group	13.2	143.6	89.7	4,011	1,067	230	1 60	1 56	1 59	2 56	2 50	2 66
Muskoka	3.4	187.7	37.2	833	456	56	0 30	0 37	0 33	1 50	2 02	1 68
Parry Sound	8.9	188.7	50.3	1,257	321	86	0 46	0 50	0 52	1 72	2 15	1 97
Algoma	6.5	137.1	60.3	1,406	544	112	0 81	0 46	0 52	1 85	1 68	1 62
Group	5.4	171.1	48.7	1,148	446	83	0 49	0 41	0 40	1 71	1 96	1 70
The Province 1888	13.2	121.5	88.2	4,623	1,325	251	2 07	....	......	2 85	....	...
The Province 1887	15.0	118.1	84.5	4,458	1,270	239	....	2 02	......	...	2 83	....
The Province 1886	15.3	121.1	85.7	4,808	1,340	255	......	......	2 10	....	....	2 97

VALUES—MARKET PRICES.

TABLE No. VII.—Showing the average price of Agricultural Products at the leading markets of Ontario for July-December, 1888, and the average for the half year, and for the Province.

Products.	Brantford.	Brockville.	Chatham.	Cobourg.	Guelph.	Kingston.	Lindsay.	London.	Ottawa.	Peterborough.	St. Thomas.	Stratford.	Toronto.	The Province.	
														1888.	1887.
Fall Wheat: per bush.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
July	94.5	87.5	90.0	81.0	94.5	96.8	90.0	93.6	91.3	95.0	89.5	93.0	97.0	94.3	78.2
August	89.1	87.5	91.6	81.0	94.5	98.3	93.0	83.4	87.5	94.0	89.2	93.0	97.0	91.9	76.9
September ...	99.8	91.9	99.8	85.5	98.6	103.1	97.9	92.4	106.7	99.0	.....	94.8	104.0	99.6	77.7
October	115.2	106.0	110.7	100.5	108.3	110.0	111.0	109.3	117.5	114.0	109.9	109.9	116.3	112.6	77.6
November	114.3	105.0	110.0	110.3	111.4	113.3	112.8	111.2	122.5	115.6	104.8	110.9	114.8	113.1	78.9
December	101.4	105.0	100.1	95.0	103.0	102.5	96.3	100.9	111.7	100.8	101.0	99.0	102.8	101.8	81.4
Average....	103.5	97.5	99.4	92.0	101.8	104.4	101.0	98.3	109.1	103.3	98.6	101.1	105.4	102.4	78.4
Spring Wheat: per bush.															
July	92.5	87.5	90.0	81.0	93.0	95.5	82.3	89.0	91.3	85.5	89.5	91.0	84.9	87.3	78.3
August	86.9	87.5	91.6	81.0	93.0	97.0	84.7	80.5	87.5	85.3	88.4	91.0	87.6	86.4	77.0
September ...	96.7	91.9	99.8	83.0	96.8	102.5	93.8	90.9	105.0	94.8	.....	93.2	97.0	95.3	77.5
October	113.8	105.0	110.7	100.5	106.0	109.6	109.8	108.0	111.9	111.2	109.9	108.0	114.8	111.2	77.4
November	113.4	105.0	110.0	110.3	110.2	113.3	112.5	110.1	121.5	115.6	104.8	109.6	114.8	112.7	78.6
December	100.9	105.0	100.1	95.0	103.0	102.5	95.0	100.6	111.7	100.8	101.0	98.5	103.3	101.9	79.4
Average....	102.5	97.3	99.9	91.8	100.4	103.9	97.5	96.3	100.8	99.1	98.4	99.6	100.4	99.3	78.0
Barley: per bush.															
July	58.8	57.5	....	64.2	55.0	57.5	....	62.0	....	....	....	57.5	53.0	57.7	46.3
August	57.5	57.5	45.5	62.5	55.0	60.0	....	55.8	62.5	....	....	57.5	53.2	55.6	48.8
September ...	55.2	57.5	41.7	62.5	58.6	60.0	59.2	49.8	76.3	57.2	....	55.8	65.5	59.5	53.7
October	60.7	57.5	49.3	64.1	62.6	71.9	68.4	52.3	54.4	66.5	47.5	55.0	74.4	65.2	57.6
November	60.0	57.5	48.5	60.5	61.0	67.5	63.5	54.6	58.0	65.5	....	52.0	68.6	62.6	63.9
December	54.2	57.5	45.6	55.0	56.1	59.7	56.5	49.2	64.2	60.5	....	50.0	62.4	57.0	64.1
Average....	57.7	57.5	45.7	61.3	58.1	64.3	62.2	53.9	61.0	62.7	47.5	54.3	64.9	60.1	56.7
Oats: per bush.															
July	50·8	57.1	43.8	47.5	53.1	51.4	49.5	50.4	51.3	53.3	47.5	49.0	53.3	51.7	33.3
August	41.1	51.4	31.0	47.5	49.4	48.5	44.5	42.6	48.0	49.3	44.1	49.0	45.3	45.2	34.5
September ...	30.5	40.0	30.3	41.8	33.8	40.0	35.5	30.8	38.5	32.7	....	42.7	38.3	36.0	33.9
October	32.8	38.0	31.0	36.0	32.4	37.4	31.3	31.6	38.7	34.7	31.3	30.5	40.8	36.7	34.0
November	34.4	38.8	31.8	40.8	33.9	42.0	32.4	40.0	40.7	37.8	31.0	34.0	39.9	37.3	34.6
December	32.3	41.0	30.0	41.5	31.0	38.7	32.5	32.2	39.2	35.7	32.0	32.9	38.0	35.7	36.9
Average....	36.2	44.1	33.8	42.7	39.1	43.1	37.1	37.0	42.4	41.2	38.9	38.9	42.6	40.5	34.6
Rye: per bush.															
July	65.8	47.5	....	65.0	51.3	....	50.0	....	67.5	....	....	....	....	55.5	47.2
August	64.0	47.5	....	65.0	53.3	70.0	50.0	59.6	....	....	....	....	...	57.0	47.5
September ...	....	47.5	....	65.0	62.5	70.0	50.0	58.8	....	56.0	....	....	66.0	60.8	49.8
October	56.7	47.5	....	64.4	62.5	64.2	51.3	56.3	60.0	60.0	....	....	65.8	59.9	50.5
November	59.3	47.5	...	62.5	62.5	65.0	55.0	56.0	....	67.5	....	....	69.0	62.0	50.1
December	60.3	47.5	....	57.6	60.4	58.3	55.0	56.0	....	56.0	....	....	68.7	60.7	50.9
Average....	60.3	47.5	....	63.1	58.5	64.8	52.1	57.0	63.8	59.9	....	....	67.5	60.2	49.5
Pease: per bush.															
July	68.8	67.5	...	77.5	69.0	75.9	62.5	69.9	70.0	....	....	72.5	72.0	71.0	52.7
August	59.0	67.5	....	77.5	66.4	75.0	65.8	63.6	63.8	....	....	72.5	71.6	68.4	53.2
September ...	59.0	67.5	....	77.5	62.0	70.0	62.5	55.9	70.8	67.2	...	69.7	68.7	64.0	54.6
October	59.7	67.5	....	77.5	60.5	65.0	62.5	57.9	67.9	68.5	58.0	61.0	67.0	63.8	55.8
November	59.6	67.5	....	77.5	60.2	63.5	62.5	57.9	74.0	73.1	55.5	59.9	66.8	63.9	58.0
December	57.2	67.5	55.0	70.0	58.6	60.0	61.9	57.7	72.5	71.7	56.3	59.0	63.4	61.6	61.6
Average....	59.5	67.5	55.0	76.1	62.8	68.4	62.8	60.5	70.2	70.3	56.3	65.0	68.4	65.4	55.9

VALUES—MARKET PRICES.—*Continued.*

TABLE No. VII.—Showing the average prices of Agricultural Products, etc.—*Continued.*

Products.	Brantford.	Brockville.	Chatham.	Cobourg.	Guelph.	Kingston.	Lindsay.	London.	Ottawa.	Peterborough.	St. Thomas.	Stratford.	Toronto.	The Province.	
														1888.	1887.
CORN, per bush. (in ear) :	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
October	31.8	....	....	....	....	31.8	....	31.3	32.1	....	....	....	....	31.5	27.8
November	32.5	....	....	....	....	31.1	....	28.9	36.0	....	....	....	....	30.6	28.5
December	25.6	....	18.4	....	....	30.0	....	25.8	36.3	....	23.8	...	....	26.2	30.1
Average	29.6	....	18.4	....	....	31.3	....	28.6	35.0	....	23.8	....	....	29.3	28.7
BUCKWHEAT, per bush. :															
October	49.0	56.5	....	....	....	45.3	....	47.8	68.3	....	....	....	....	53.1	41.7
November	48.5	47.5	....	....	....	45.0	....	48.0	55.0	....	....	....	....	48.4	46.2
December	49.0	47.5	....	....	....	42.5	....	48.0	55.0	....	....	....	....	48.2	47.8
Average	48.8	51.0	....	....	....	44.4	....	48.0	60.0	....	....	.. .	....	49.3	45.0
BEANS, per bush. :															
October	142.5	95.0	125.0	....	....	....	....	100.0	155.0	....	....	....	....	110.4	99.4
November	162.5	95.0	113.8	....	....	157.5	....	100.0	155.0	....	....	....	....	111.6	96.3
December	153.5	95.0	119.3	....	....	162.5	....	104.6	155.0	....	....	....	....	116.9	98.3
Average	153.0	95.0	119.3	....	....	161.3	....	102.1	155.0	....	....	....	...	113.7	97.0
POTATOES, p. bush.:															
October	30.9	36.5	36.5	28.3	27.5	40.0	28.8	30.0	46.7	41.5	26.5	28.4	34.3	33.4	63.2
November	30.3	37.5	....	21.7	28.3	42.7	26.0	28.0	41.0	36.5	....	29.7	32.2	31.6	61.5
December	30.2	33.8	35.0	21.6	28.4	36.6	25.0	25.0	44.1	....	25.5	27.9	31.7	29.9	63.7
Average	30.4	36.0	35.5	23.7	28.1	40.0	26.5	27.9	44.1	39.0	26.0	28.7	32.8	31.7	62.8
CARROTS, p. bush. :															
October	....	....	....	....	....	28.3	....	22.5	36.7	....	....	....	25.0	24.6	26.1
November	....	....	....	....	....	25.9	....	22.5	36.7	....	....	....	30.0	27.8	24.7
December	....	....	....	....	....	33.3	....	22.5	28.3	....	....	....	29.2	27.2	32.4
Average	....	....	....	...	....	28.6	....	22 5	34.6	....	....	....	28.8	26.8	28.0
TURNIPS, p. bush. :															
October	....	37.5	....	....	....	28.3	....	26.7	36.7	....	....	....	12.6	22.0	29.5
November	....	37.5	....	....	9.0	25.9	. ..	22.5	36.7	....	. ..	....	15.4	19.7	29.4
December	....	37.5	....	....	9.0	31.6	....	22.5	36.8	....	....	....	18.3	21.0	29.7
Average	....	37.5	....	....	9.0	28.4	....	23.9	36.7	....	....	....	16.0	20.8	29.5
WOOL, per lb. :															
July	19.9	20.0	19.5	19.0	21.5	19.0	19.0	21.5	19.0	19.0	17.5	....	21.2	20.6	23.5
August	19.6	20.0	....	19.0	21.5	18.0	19.0	21.5	19.0	19.0	17.5	....	21.5	20.5	22.5
September	19.6	20.0	....	19.0	21.5	16.8	....	19.3	19.7	....	....	....	22.1	20.2	21.9
October	20.5	20.0	....	19.0	21.5	17.0	....	19.0	22.8	19.0	....	....	22.1	20.4	21.7
November	19.5	20.0	....	19.0	21.5	17.0	....	19.0	23.9	19.0	....	....	21.8	20.3	20.5
December	20.3	20.0	....	19.0	21.5	17 0	....	19.0	24.0	....	....	....	22.1	20.4	20.2
Average	19.8	20.0	19.5	19.0	21.5	17.5	19.0	19.9	21.6	19.0	17.5	....	21.8	20.4	22.1
HAY, per ton :	$ c.	$ c.	$ c.	$ c	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
July	13 63	13 00	.....	11 50	11 25	16 50	10 00	12 00	10 50	12 50	10 00	9 25	18 30	14 84	10 25
August	12 75	14 25	.....	11 50	13 20	15 38	12 50	10 63	11 38	12 50	10 00	8 75	20 56	15 63	10 64
September	14 38	14 25	.....	12 00	15 75	14 75	14 67	11 94	14 17	.....	.....	9 67	19 92	16 45	11 24
October	15 40	14 50	.....	16 00	15 69	16 50	15 67	13 48	16 33	14 75	14 00	11 50	21 56	17 77	12 49
November	17 20	14 88	.....	16 33	16 15	19 00	16 20	13 74	16 30	16 00	13 67	12 60	22 29	18 21	12 84
December	16 93	15 63	.....	17 63	14 75	20 33	15 75	12 56	15 83	.....	.....	12 00	20 54	17 28	12 32
Average	15 52	14 42	.....	14 26	14 48	17 19	14 40	12 37	14 28	13 53	11 73	10 84	20 54	16 71	11 62

VALUES—FALL WHEAT.

TABLE No. VIII.—Showing by County Municipalities and groups of Counties the marketable value of Fall Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. per ratio of this average in 1888 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	685,719	22 84	461,082	15 23	583,604	18 17	126
Kent	1,217,362	20 89	761,272	12 69	1,083,856	17 75	118
Elgin	782,010	18 02	512,912	11 76	781,226	17 46	103
Norfolk	528,315	15 87	362,172	11 34	528,308	15 91	100
Haldimand	368,130	11 26	408,274	12 34	475,319	14 36	78
Welland	274,720	12 39	274,340	12 02	322,001	14 02	88
Totals	3,856,256	17 54	2,780,052	12 54	3,774,314	16 61	106
Lambton	715,696	18 43	492,612	13 88	596,691	17 15	107
Huron	943,625	16 90	743,773	10 75	1,233,129	17 72	95
Bruce	676,121	17 20	514,706	11 34	880,415	17 57	98
Totals	2,335,442	17 43	1,751,091	11 67	2,710,235	17 55	99
Grey	451,491	19 15	284,756	12 93	520,531	18 67	103
Simcoe	1,013,801	20 48	691,181	13 55	1,037,989	19 19	107
Totals	1,465,292	20 05	975,937	13 66	1,558,520	19 01	105
Middlesex	1,158,976	16 79	903,162	12 58	1,331,668	17 79	94
Oxford	705,653	18 12	582,353	14 35	698,690	17 63	103
Brant	327,040	12 80	341,649	11 71	502,907	16 28	79
Perth	641,786	16 08	497,667	10 30	826,122	17 81	90
Wellington	337,402	17 41	338,559	12 98	505,168	18 09	96
Waterloo	632,389	17 51	522,623	12 86	746,076	18 49	95
Dufferin	117,865	15 87	103,870	11 02	199,579	17 47	91
Totals	3,921,111	16 59	3,289,883	12 37	4,810,210	17 72	94
Lincoln	164,402	8 60	272,153	12 65	347,136	15 74	55
Wentworth	252,601	9 22	406,043	12 99	521,927	16 39	56
Halton	188,326	10 96	345,460	16 33	374,681	16 80	65
Peel	306,248	15 36	310.970	12 77	513,904	18 98	81
York	537,556	20 28	467,001	13 69	750,081	19 68	103
Ontario	109,791	23 45	99,892	14 69	209,835	20 56	114
Durham	71,331	22 63	46,015	14 31	64,190	19 38	117
Northumberland	273,416	22 94	133,196	13 52	200,727	19 84	116
Prince Edward	21,748	18 94	13,392	13 99	31,404	14 79	128
Totals	1,925,419	14 69	2,094,122	13 67	3,013,885	18 03	81
Lennox and Addington	22,327	13 82	10,930	8 51	31,146	15 57	89
Frontenac	13,063	17 51	10,142	10 63	32,802	17 33	101
Leeds and Grenville	60,765	20 28	31,575	10 94	91,377	17 10	119
Dundas	3,827	24 37	1,869	12 54	21,635	17 63	138
Stormont	4,270	28 46	5,369	12 54	12,776	17 08	167
Glengarry	3,633	28 16	3,062	10 97	10,498	15 60	181
Prescott	845	15 36	306	11 77	1,003	11 80	130
Russell	3,548	21 50	762	10 58	3,916	17 25	125
Carleton	6,763	19 66	11,329	13 80	23,922	14 37	137
Renfrew	2,742	17 92	3,561	14 02	18,415	17 34	103
Lanark	33,263	21 81	24,167	12 49	56,891	18 15	120
Totals	155,046	19 29	103,072	11 34	304,381	16 85	114
Victoria	143,290	23 55	105,325	13 74	165,034	18 30	129
Peterborough	196,947	20 17	119,674	14 32	191,591	19 21	105
Haliburton	3,517	19 87	1,758	14 90	1,577	15 61	127
Hastings	146,858	20 17	90,654	11 57	143,117	17 56	115
Totals	490,612	21 05	317,411	13 24	501,319	18 40	114
Muskoka	1,881	17 10	894	14 90	1,003	15 67	109
Parry Sound	....	....	360	13 33	581	16 60	.....
Algoma	11,667	14 79	8,617	19 99	7,634	19 73	75
Totals	13,548	15 07	9,871	19 06	9,218	18 97	79
The Province	14,162,726	17 14	11,321,439	12 61	16,682,082	17 60	97

VALUES—SPRING WHEAT.

TABLE No. IX.—Showing by County Municipalities and group of Counties the marketable value of Spring Wheat in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	11,403	17 87	13,824	10 05	21,761	13 30	134
Kent	37,471	18 17	33,050	9 36	36,761	13 32	136
Elgin	8,452	17 18	8,455	7 80	23,603	12 41	138
Norfolk	5,852	14 50	5,415	6 93	10,712	12 09	120
Haldimand	34,501	17 77	21,283	7 06	35,546	12 25	145
Welland	4,161	14 60	7,234	6 86	19,858	11 85	123
Totals	101,840	17 49	89,261	8 23	148,241	12 60	138
Lambton	26,845	15 69	30,976	5 50	83,682	12 21	129
Huron	28,576	14 00	55,862	5 87	225,149	11 52	122
Bruce	117,011	15 69	94,255	7 32	171,312	12 07	130
Totals	172,432	15 38	181,093	6 46	480,143	11 83	130
Grey	352,473	16 09	241,393	7 57	565,702	12 89	125
Simcoe	479,134	16 98	279,743	8 31	485,215	13 75	123
Totals	831,607	16 59	521,136	7 95	1,050,917	13 28	125
Middlesex	19,035	14 40	44,737	6 01	155,083	12 30	117
Oxford	22,862	15 29	45,300	6 59	143,318	13 55	113
Brant	598	12 71	4,310	7 35	15,323	11 52	110
Perth	21,784	11 62	32,180	4 68	175,467	12 59	92
Wellington	114,842	16 09	96,417	6 11	275,045	12 72	126
Waterloo	6,971	19 86	17,704	6 16	73,791	12 85	155
Dufferin	296,319	17 18	178,957	9 43	266,154	13 03	132
Totals	482,411	16 37	419,605	7 06	1,104.181	12 80	128
Lincoln	16,258	18 37	8,287	6 66	28,902	12 83	143
Wentworth	13,557	15 99	15,304	7 28	33,730	12 79	125
Halton	44,201	20 26	19,701	7 46	46,496	13 45	151
Peel	171,299	21 75	84,933	8 58	192,936	15 33	142
York	423,033	22 34	199,788	8 46	413,605	15 73	142
Ontario	823,569	21 75	439,227	10 33	751,151	15 95	136
Durham	402,102	19 26	285,610	9 81	587,025	15 35	125
Northumberland	242,002	13 70	191,915	8 53	372,805	12 99	105
Prince Edward	52,073	15 09	62,299	10 92	84,850	12 30	123
Totals	2,188,094	19 79	1,307,064	9 38	2,511,500	14 93	133
Lennox and Addington	33,638	12 81	55,150	9 82	85,148	13 39	96
Frontenac	126,627	15 89	69,391	9 66	122,287	14 14	112
Leeds and Grenville	182,851	17 87	125,894	9 06	200,074	14 81	121
Dundas	93,139	23 63	71,957	13 00	81,797	17 24	137
Stormont	99,443	21 85	69,960	13 26	75,670	16 78	130
Glengarry	137,839	18 07	109,128	12 79	118,461	14 93	121
Prescott	159,355	19 96	94,223	11 06	119.173	14 64	136
Russell	60,917	19 56	46,038	11 57	63,931	15 26	128
Carleton	374,219	21 65	256,169	13 31	338,603	15 61	139
Renfrew	309,278	14 30	212,760	9 64	360,422	14 83	96
Lanark	214,380	15 69	136,779	9 58	202,180	14 14	111
Totals	1,791,686	17 81	1,247,449	10 93	1,767,746	14 94	119
Victoria	356,525	15 79	210.814	8 92	450,501	13 85	114
Peterborough	247,950	11 82	204,317	8 81	314,405	12 27	96
Haliburton	18,478	15 89	13,787	10 34	14,824	11 45	139
Hastings	113,453	12 11	107,213	8 33	227,828	14 05	86
Totals	736,406	13 61	536,131	8 78	1,007,558	13 32	102
Muskoka	12,512	14 50	12,289	9 21	19,923	13 60	107
Parry Sound	6,457	11 72	10,661	11 83	23,028	15 00	78
Algoma	84,939	18 87	69,142	16 18	116,329	18 41	102
Totals	103,908	17 56	92,092	14 15	159,280	17 09	103
The Province	6,408,384	17 42	4,393,831	9 06	8,229,566	13 97	125

VALUES—BARLEY.

TABLE No. X.—Showing by County Municipalities and groups of Counties the marketable value of Barley in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for seven years 1882-8.		Per cent. ratio
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	74,539	17 97	39,125	16 26	40,294	15 89	113
Kent	163,360	18 69	80,151	13 49	97,150	15 86	118
Elgin	90,687	19 95	49,699	11 82	70,112	15 91	125
Norfolk	120,218	17 85	69,932	10 97	93,901	15 28	117
Haldimand	246,022	18 45	129,021	9 79	193,378	13 25	139
Welland	52,594	18 03	39,956	10 99	53,825	13 68	132
Totals	747,420	18 49	407,884	11 41	548,660	14 53	127
Lambton	316,418	21 16	174,347	12 54	221,781	15 32	138
Huron	542,151	17 13	393,849	14 08	427,020	16 09	106
Bruce	359,097	15 45	240,297	12 61	289,381	15 16	102
Totals	1,217,666	17 43	808,493	13 27	938,182	15 61	112
Grey	283,482	13 34	291,617	12 29	337,967	14 20	94
Simcoe	558,945	13 34	450,044	13 12	443,858	14 73	91
Totals	842,427	13 34	741,661	12 78	781,825	14 49	92
Middlesex	310,974	19 47	176,850	12 74	232,892	15 62	125
Oxford	386,728	20 19	235,789	13 72	296,569	17 58	115
Brant	433,095	16 95	271,657	12 70	278,465	15 73	108
Perth	350,965	20 19	221,583	14 08	300,196	17 04	118
Wellington	770,954	17 49	476,696	13 43	560,429	16 03	109
Waterloo	412,169	19 59	221,755	14 38	279,592	17 58	111
Dufferin	239,307	15 81	180,672	13 75	170,073	14 62	108
Totals	2,904,192	18 34	1,785,002	13 49	2,118,216	16 35	112
Lincoln	85,289	17 55	35,657	10 06	63,263	14 93	118
Wentworth	325,581	20 79	167,625	12 30	206,980	16 64	125
Halton	297,648	18 21	188,212	14 15	209,881	16 20	112
Peel	767,587	16 53	505,393	13 40	545,652	15 99	103
York	1,386,665	19 17	877,741	14 07	946,822	16 78	114
Ontario	959,137	18 51	576,502	14 38	631,711	16 58	112
Durham	913,795	14 84	677,318	13 19	727,789	15 56	95
Northumberland	549,959	10 34	551,471	11 14	596,237	12 98	80
Prince Edward	512,645	11 42	387,849	10 03	472,884	11 56	99
Totals	5,798,306	15 79	3,967,768	12 79	4,401,219	15 08	105
Lennox and Addington	371,920	10 04	420,463	11 49	515,420	12 64	79
Frontenac	218,441	11 18	134,952	10 08	250,368	13 64	82
Leeds and Grenville	168,855	15 63	125,523	12 97	162,737	14 70	106
Dundas	115,679	20 55	67,034	14 18	123,419	17 85	115
Stormont	33,471	16 83	27,439	14 93	38,345	16 38	103
Glengarry	37,618	14 24	26,094	11 52	28,758	13 31	107
Prescott	83,965	20 19	48,917	14 69	40,178	15 66	129
Russell	21,083	12 02	23,837	13 23	18,971	13 56	89
Carleton	178,807	18 87	134,834	16 58	128,283	16 76	113
Renfrew	20,668	10 10	19,312	10 05	18,205	13 42	75
Lanark	54,559	14 12	35,065	11 47	40,434	15 05	94
Totals	1,305,066	13 19	1,063,470	12 26	1,365,118	14 03	94
Victoria	595,176	15 15	444,477	13 04	438,431	14 40	105
Peterborough	185,966	12 26	145,653	10 33	191,793	13 87	88
Haliburton	3.334	12 92	3,232	11 34	3,798	13 66	95
Hastings	423,372	10 22	327,305	9 80	535,075	13 19	77
Totals	1,207,848	12 56	920,667	11 25	1,169,097	13 74	91
Muskoka	5,829	12 98	7.407	12 58	6,689	12 32	105
Parry Sound	4,313	9 32	5,730	10 91	8,659	12 85	73
Algoma	10,241	18 03	7,366	17 01	8,612	15 27	118
Totals	20,383	13 77	20,503	13 25	23,960	13 45	102
The Province	14,043,308	15 68	9,715,448	12 66	11,346,277	14 98	105

VALUES—OATS.

TABLE No. XI.—Showing by County Municipalities and groups of Counties the marketable value of Oats in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for seven years 1882-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	659,627	18 91	449,039	13 84	419,590	14 66	129
Kent	618,958	17 78	432,909	12 61	478,561	14 90	119
Elgin	668,684	18 67	368,546	11 12	460,353	14 41	130
Norfolk	434,338	15 07	206,960	7 35	326,552	12 35	122
Haldimand	471,981	17 66	199,964	8 78	280,978	12 79	138
Welland	345,975	15 71	192,478	9 10	228,715	11 99	131
Totals	3,199,563	17 48	1.849,896	10 73	2,194,749	13 70	128
Lambton	823,683	18 14	435,588	10 75	526,441	13 80	131
Huron	1,399,689	15 15	982,789	12 51	1,012,352	13 70	111
Bruce	923,982	12 64	634,941	10 28	701,239	12 23	103
Totals	3.147,354	14 92	2,053,318	11 36	2,240,032	13 22	113
Grey	1,239,275	11 46	900.335	9 91	974,508	11 69	98
Simcoe	913,998	12 23	661,194	9 88	745,029	12 20	100
Totals	2,153,273	11 78	1,561,529	9 89	1,719,537	11 91	99
Middlesex	1,479,942	17 33	813,115	11 25	1,000,582	14 32	121
Oxford	1,018,799	16 85	587,146	10 68	733,543	14 35	117
Brant	290,790	15 67	172,878	9 30	241,564	13 59	115
Perth	1,214,182	18 31	727.597	12 48	811,518	15 08	121
Wellington	1,265,181	14 86	826,841	10 74	893,256	13 29	112
Waterloo	655,850	16 00	413,051	11 35	477,082	14 00	114
Dufferin	527,534	15 11	357,884	11 20	352,419	12 71	119
Totals	6,452,278	16 47	3,898,512	11 15	4,509,964	14 02	117
Lincoln	308,631	17 05	147,663	8 00	223,195	12 74	134
Wentworth	540,246	17 66	257,736	8 93	394,259	14 04	126
Halton	324,222	15 51	200,628	10 71	243,037	13 40	116
Peel	560,561	15 84	309,089	10 70	383,414	13 79	115
York	1,267,335	17 98	758,571	11 48	901,959	14 87	121
Ontario	989,461	17 21	553,789	11 35	659,694	14 01	123
Durham	525,263	14 22	332,919	10 05	435,708	13 27	107
Northumberland	337,114	10 21	250,262	7 54	315,412	10 81	94
Prince Edward	148,330	11 50	94,083	6 84	133,155	9 91	116
Totals	5,001,163	15 83	2,904,740	10 02	3,689,833	13 43	118
Lennox and Addington	191,005	8 51	195,447	7 91	223,812	10 32	82
Frontenac	293,320	9 72	190,658	6 78	279,206	10 51	92
Leeds and Grenville	954,637	13 16	622,126	9 42	752,286	11 88	111
Dundas	533,549	16 08	291,281	9 80	390,343	13 51	119
Stormont	351,434	14 54	274,052	11 25	315,387	12 97	112
Glengarry	356,428	11 34	316,112	10 38	359,716	12 03	94
Prescott	368,672	13 85	307,662	11 13	292,750	11 48	121
Russell	217,434	11 91	194,398	10 09	208,366	11 66	102
Carleton	929,707	13 12	678,169	11 12	760,910	13 07	100
Renfrew	398,304	8 59	330,248	7 80	436.028	11 15	77
Lanark	386,084	9 48	334,208	8 23	405,002	11 41	83
Totals	4,980,574	11 95	3,734,361	9 47	4,423,806	11 93	100
Victoria	567,382	12 51	426,824	10 36	445,185	12 00	104
Peterborough	331,586	10 00	262,100	8 42	323,951	11 28	89
Haliburton	50,209	8 22	39,643	8 04	45,688	9 53	86
Hastings	382,587	8 91	315,791	7 43	427,948	10 45	85
Totals	1,331,764	10 44	1,044,358	8 72	1,242,772	11 14	94
Muskoka	100,995	9 96	83,994	9 01	87,246	10 51	95
Parry Sound	56,885	10 61	45,572	11 07	49,929	11 36	93
Algoma	90,250	16 20	71,163	14 27	54,001	13 70	118
Totals	248,130	11 78	200,729	10 89	191,176	11 49	103
The Province	26,514,099	14 33	17,247,443	10 25	20,211,869	12 88	111

VALUES—RYE.

TABLE No. XII.—Showing by County Municipalities and groups of Counties the marketable value of Rye in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1887 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for seven years 1882-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	12,042	14 39	6,171	9 36	9,572	12 15	118
Kent	11,159	13 73	8,548	8 13	7,581	12 21	112
Elgin	25,473	13 00	7,798	7 55	13,454	10 62	122
Norfolk	85,055	9 57	38,827	5 37	63,771	8 70	110
Haldimand	5,126	9 27	1,157	6 19	9,384	10 53	88
Welland	6,689	10 36	3,583	7 04	6,755	10 11	102
Totals	145,544	10 63	66,084	6 19	110,517	9 56	111
Lambton	3,329	10 54	408	7 41	2,067	9 84	107
Huron	2,131	9 03	1,964	9 01	2,875	10 61	85
Bruce	6,863	15 05	2,684	7 76	4,122	10 54	142
Totals	12,323	12 23	5,056	8 17	9,064	10 39	118
Grey	5,063	14 03	4,537	9 65	5,848	10 97	128
Simcoe	23,743	9 63	11,140	7 85	25,555	11 31	85
Totals	28,806	10 19	15,677	8 30	31,403	11 24	91
Middlesex	6,518	11 26	3,840	7 18	4,766	10 34	109
Oxford	17,111	10 41	4,258	6 34	10,544	9 11	114
Brant	17,391	10 90	6,382	6 60	8,673	9 13	119
Perth	406	9 03	2,050	4 95	1,969	8 67	104
Wellington	11,845	12 64	5,071	7 42	9,188	11 00	115
Waterloo	5,671	12 04	2,954	8 66	5,848	10 85	111
Dufferin	5,888	18 06	4,768	6 93	9,043	11 08	163
Totals	64,830	11 58	29,323	6 82	50,031	10 04	115
Lincoln	1,343	9 39	450	6 92	4,363	9 70	97
Wentworth	12,720	11 38	4,550	6 83	10,350	10 86	105
Halton	4,455	9 81	1,859	7 59	5,179	10 46	94
Peel	11,667	12 04	731	5 94	18,164	12 76	94
York	15,464	11 62	4,907	8 04	17,961	9 96	117
Ontario	20,966	11 44	11,317	7 76	32,163	10 98	104
Durham	36,587	9 45	21,335	5 98	47,501	9 28	102
Northumberland	75,355	7 53	49,911	5 52	93,851	8 25	91
Prince Edward	69,754	8 07	36,686	5 87	74,668	8 19	99
Totals	248,311	8 75	131,746	5 98	304,200	9 04	97
Lennox and Addington	22,577	6 98	20,201	7 03	47,411	8 99	78
Frontenac	23,767	8 43	6,185	6 09	39,234	10 32	82
Leeds and Grenville	14,004	8 01	11,033	6 21	75,959	11 06	72
Dundas	9,449	9 63	4,116	5 94	21,057	14 02	69
Stormont	2,889	12 04	1,882	10 39	6,551	13 03	92
Glengarry	162	9 00	....	....	650	11 02	82
Prescott	2,104	12 16	328	6 56	3,225	11 08	110
Russell	217	18 06	358	14 83	2,916	12 57	144
Carleton	33,838	10 17	26,515	7 99	70,277	10 87	94
Renfrew	38,356	8 91	32,670	6 78	77,669	11 68	76
Lanark	15,380	7 22	9,133	7 12	59,285	11 88	61
Totals	162,743	8 57	112,421	7 01	404,234	11 04	78
Victoria	12,317	12 04	3,614	9 90	11,826	10 31	117
Peterborough	19,343	9 33	13,441	6 30	31,453	9 68	96
Haliburton	1,124	9 21	1,596	6 19	2,683	10 20	90
Hastings	75,895	8 01	59,959	6 26	137,351	9 37	85
Totals	108,679	8 56	78,610	6 37	183,313	9 49	90
Muskoka	2,635	9 51	2,087	8 42	4,771	11 87	80
Parry Sound	1,355	9 03	408	7 42	4,762	12 84	70
Algoma	4,546	9 63	1,557	8 42	1,652	9 95	97
Totals	8,536	9 49	4,052	8 30	11,185	11 91	80
The Province	779,772	9 27	442,969	6 48	1,103,947	9 97	93

VALUES—PEASE.

TABLE No. XIII.—Showing by County Municipalities and groups of Counties the marketable value of Pease in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for seven years 1882-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	59,985	15 37	46,271	8 30	45,643	11 83	130
Kent	214,121	14 06	146,854	9 01	121,167	12 27	115
Elgin	242,520	16 35	111,830	6 26	140,842	11 87	138
Norfolk	282,338	15 96	107,589	5 33	173,002	12 16	131
Haldimand	236,923	16 42	87,376	6 19	153,346	11 85	139
Welland	63,911	14 52	42,052	7 77	42,776	10 77	135
Totals	1,099,798	15 60	541,972	6 82	676,776	11 93	131
Lambton	190,535	16 09	94,553	6 91	108,652	12 09	133
Huron	548,606	15 24	450,956	12 42	434,360	14 11	108
Bruce	543,570	13 54	493,611	12 57	521,649	14 32	95
Totals	1,282,711	14 58	1,039,120	11 64	1,064,661	13 97	104
Grey	564,330	11 25	527,310	11 39	596,088	13 30	85
Simcoe	371,469	11 25	316,573	9 87	410,656	13 29	85
Totals	935,799	11 25	843,883	10 77	1,006,744	13 30	85
Middlesex	463,404	16 15	260,748	9 55	261,301	12 52	129
Oxford	337,482	18 38	184,729	9 71	208,418	14 14	130
Brant	139,753	15 63	53,202	5 26	105,401	12 18	128
Perth	480,446	17 72	299,520	12 35	327,791	14 87	119
Wellington	610,817	15 43	481,472	11 80	527,530	14 37	107
Waterloo	287,166	17 53	136,081	8 65	198,682	14 36	122
Dufferin	178.006	13 67	140,626	11 85	146,788	13 01	105
Totals	2,497,074	16 42	1,556,378	10 44	1,775,911	13 86	118
Lincoln	73,125	14 58	36,247	6 33	52,417	11 56	126
Wentworth	205,136	16 48	98,020	7 88	132,233	13 01	127
Halton	169,410	15 83	76,284	6 50	139,374	13 61	116
Peel	241,540	15 24	123,857	8 27	172,223	13 12	116
York	531,837	16 61	319,131	10 76	382,166	14 08	118
Ontario	410,370	14 19	296,444	9 39	345,919	13 18	108
Durham	220,357	10 66	215,410	8 88	268,388	12 41	86
Northumberland	129,821	6 21	135,707	5 80	205,463	10 12	61
Prince Edward	162,922	9 16	141,298	6 15	118,424	9 89	93
Totals	2,144,518	13 05	1,442,398	8 16	1,816,607	12 50	104
Lennox and Addington	62,967	7 65	61,791	6 73	97,443	11 23	68
Frontenac	86,919	9 55	68,303	6 43	126,835	11 30	85
Leeds and Grenville	69,977	10 99	57,785	9 25	77,617	12 18	90
Dundas	23,441	14 72	19,688	11 18	24,710	14 11	104
Stormont	35,790	16 35	24,498	9 92	36,273	13 11	125
Glengarry	50,696	11 38	60,801	12 30	71,597	11 59	98
Prescott	72,077	14 85	69,160	9 75	97,057	10 18	146
Russell	19,851	10 40	33,157	10 51	49,498	12 49	83
Carleton	136,336	11 25	150,785	11 79	174,824	13 19	85
Renfrew	198,343	10 40	179,364	8 83	250,242	12 19	85
Lanark	93,216	8 44	102,837	8 75	150,357	13 28	64
Totals	849,613	10 50	828,169	9 17	1,156,453	12 11	87
Victoria	159,265	10 40	180,060	9 88	197,528	12 41	84
Peterborough	94,665	6 67	115,974	7 27	171,109	11 41	58
Haliburton	13,478	9 16	18,185	10 48	18,063	11 76	78
Hastings	125,470	7 00	123,328	6 24	185,773	10 35	68
Totals	392,878	8 03	437,547	7 86	572,473	11 36	71
Muskoka	33,428	12 16	30,192	10 72	33,650	12 69	96
Parry Sound	21,674	15 55	17,105	14 16	17,697	13 68	114
Algoma	74,997	16 35	68,128	17 47	56,205	16 29	100
Totals	130,099	14 90	115,425	14 57	107,552	14 54	102
The Province	9,332,490	13 40	6,804,892	9 36	8,177,177	12 87	104

VALUES—WHEAT TO PEASE.

TABLE No. XIV.—Showing by County Municipalities and groups of Counties the aggregate marketable value of Wheat, Barley, Oats, Rye and Pease in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for seven years 1882-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	1,503,315	20 20	1,015,512	13 96	1,120,464	16 11	125
Kent	2,262,431	18 86	1,462,784	12 07	1,825,076	16 21	116
Elgin	1,817,826	17 99	1,059,240	10 49	1,489,590	15 50	116
Norfolk	1,456,116	15 19	790,895	8 36	1,196,246	13 56	112
Haldimand	1,362,683	15 20	847,075	9 81	1,147,951	13 29	114
Welland	748,050	14 27	559,643	10 25	673,930	12 89	111
Totals	9,150,421	17 16	5,735,149	10 81	7,453,257	14 75	116
Lambton	2,076,506	18 37	1,228,484	11 24	1,539,314	14 88	123
Huron	3,464,778	15 88	2,629,193	11 86	3,334,885	15 11	105
Bruce	2,626,644	14 30	1,980,494	11 08	2,568,118	14 47	99
Totals	8,167,928	15 86	5,838,171	11 45	7,442,317	14 84	107
Grey	2,896,114	12 85	2,249,948	10 45	3,000,644	13 38	96
Simcoe	3,361,090	14 62	2,409,875	10 98	3,148,302	14 73	99
Totals	6,257,204	13 75	4,659,823	10 72	6,148,946	14 04	98
Middlesex	3,438,849	17 11	2,202,452	11 40	2,986,292	15 43	111
Oxford	2,488,635	17 77	1,639,575	11 77	2,091,082	15 60	114
Brant	1,208,667	15 06	850,078	10 52	1,152,333	14 91	101
Perth	2,709,569	17 75	1,780,597	11 57	2,443,063	15 86	112
Wellington	3,111,041	15 85	2,225,056	11 36	2,770,616	14 64	108
Waterloo	2,000,216	17 34	1,314,168	11 80	1,781,071	16 13	108
Dufferin	1,364,919	15 50	966,777	11 24	1,144,056	13 73	113
Totals	16,321,896	16 76	10,978,703	11 43	14,368,513	15 25	110
Lincoln	649,048	13 49	500,457	9 90	719,276	14 09	96
Wentworth	1,349,841	15 33	949,278	10 67	1,299,479	15 09	102
Halton	1,028,262	15 17	832,144	12 27	1,018,648	15 07	101
Peel	2,058,902	16 28	1,334,973	11 51	1,826,293	15 73	103
York	4,161,890	18 78	2,627,139	12 14	3,412,594	16 22	116
Ontario	3,313,294	18 14	1,977,171	11 55	2,630,473	15 33	118
Durham	2,169,435	14 75	1,578,607	10 92	2,130,601	14 40	102
Northumberland	1,607,667	10 96	1,312,462	8 90	1,784,495	12 25	89
Prince Edward	967,472	10 89	735,607	8 33	915,385	10 84	100
Totals	17,305,811	15 49	11,847,838	10 86	15,737,244	14 56	106
Lennox and Addington	704,434	9 37	763,982	9 52	1,000,380	11 80	79
Frontenac	762,137	10 83	479,631	7 83	850,732	12 07	90
Leeds & Grenville	1,451,089	13 86	973,936	9 69	1,360,050	12 77	109
Dundas	779,084	17 13	455,945	10 71	662,961	14 73	116
Stormont	527,297	15 84	403,200	11 67	485,002	13 81	115
Glengarry	586,376	12 66	515,197	11 09	589,680	12 57	101
Prescott	687,018	15 67	520,596	11 16	553,386	12 00	131
Russell	323,050	12 81	298,548	10 55	347,598	12 46	103
Carleton	1,659,670	14 64	1,257,803	11 94	1,496,819	13 74	107
Renfrew	967,691	10 34	777,915	8 48	1,160,981	12 48	83
Lanark	796,882	10 92	642,189	8 81	914,149	12 71	86
Totals	9,244,728	12 76	7,088,942	9 98	9,421,738	12 79	100
Victoria	1,833,955	14 15	1,371,114	10 95	1,708,505	13 55	104
Peterborough	1,076,457	11 29	861,159	9 08	1,224,302	12 70	89
Haliburton	90,140	9 69	78,201	9 03	86,633	10 48	92
Hastings	1,267,635	9 87	1,024,250	8 13	1,657,092	11 97	82
Totals	4,268,187	11 77	3,334,724	9 40	4,676,532	12 67	93
Muskoka	157,280	10 78	136,863	9 52	153,282	11 42	94
Parry Sound	90,684	11 45	79,836	11 69	104,656	12 60	91
Algoma	276,640	16 78	225,973	15 91	244,433	16 48	102
Totals	524,604	13 45	442,672	12 50	502,371	13 74	98
The Province	71,240,779	15 09	49,926,022	10 79	65,750,918	14 26	106

VALUES—CORN.

TABLE No. XV.—Showing by County Municipalities and groups of Counties the marketable value of Corn in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	959,004	27 16	533,466	18 07	695,610	21 71	125
Kent	684,716	23 62	329,069	13 96	509,443	19 31	122
Elgin	449,658	26 25	207,413	15 02	309,507	21 18	124
Norfolk	399,051	23 88	125,051	9 09	254,972	18 26	131
Haldimand	80,326	27 72	21,173	17 44	35,897	22 58	123
Welland	182,646	25 23	92,708	17 60	116,718	20 27	124
Totals	2,755,401	25 45	1,308,880	15 02	1,922,147	20 37	125
Lambton	210,671	23 23	88,333	14 23	129,369	18 89	123
Huron	49,460	26 25	22,021	23 86	30,648	24 06	109
Bruce	18,002	17 58	5,970	14 35	10,416	17 59	100
Totals	278,133	23 23	116,324	15 41	170,433	19 55	119
Grey	12,042	14 65	5,005	11 48	6,873	14 56	101
Simcoe	22,920	21 01	5,794	7 65	12,424	15 30	137
Totals	34,962	18 28	10,799	9 05	19,297	15 03	122
Middlesex	322,960	23 35	131,173	14 37	203,138	19 43	120
Oxford	231,925	22 06	109,039	14 54	149,229	18 62	118
Brant	138,193	22 12	55,552	13 87	86,054	19 17	115
Perth	24,221	24 17	12,046	15 31	13,529	19 99	121
Wellington	14,817	19 05	7,032	14 35	8,469	17 57	108
Waterloo	23,654	19 78	8,028	10 33	15,596	16 77	118
Dufferin	1,743	14 65	1,125	11 48	1,177	14 90	98
Totals	757,513	22 49	323,995	14 22	477,192	18 99	118
Lincoln	203,979	25 49	91,865	15 22	125,041	19 92	128
Wentworth	120,951	25 87	65,947	15 66	80,466	20 30	127
Halton	38,418	23 44	7,118	7 65	16,820	16 05	146
Peel	12,995	14 65	4,535	11 48	7,229	15 16	97
York	42,041	21 68	16 891	15 07	24,413	19 64	110
Ontario	81,243	23 21	28,243	12 30	41,440	17 08	136
Durham	28,414	12 63	14,361	9 02	20,552	12 29	103
Northumberland	80,374	15 35	46,901	13 13	51,873	13 57	113
Prince Edward	132,753	18 52	54,927	11 12	67,332	13 50	137
Totals	741,168	21 00	330,788	13 18	435,166	16 79	125
Lennox and Addington	46,959	16 03	20,671	11 84	29,338	14 86	108
Frontenac	33,032	15 88	18,285	13 14	23,628	14 66	108
Leeds and Grenville	152,821	20 16	90,770	18 68	90,577	17 88	113
Dundas	48,121	19 51	33,755	26 31	31,224	19 36	101
Stormont	23,680	17 58	18,899	16 26	18,345	16 85	104
Glengarry	9,177	11 72	6,802	14 35	7,831	14 01	84
Prescott	25,777	19 57	16,280	16 96	20,222	16 20	121
Russell	4,993	11 72	2,944	7 89	4,223	11 73	100
Carleton	25,070	12 75	12,432	13 44	17,417	13 80	92
Renfrew	4,096	8 79	7,336	17 22	5,448	13 39	66
Lanark	18,112	11 43	14,416	15 05	14,353	12 43	92
Totals	391,838	17 08	242,590	16 66	262,606	16 07	106
Victoria	20,698	23 44	7,706	14 35	10,060	19 09	122
Peterborough	4,594	11 72	3,022	8 04	4,558	12 56	93
Haliburton	1,157	14 65	1,033	11 48	1,256	13 51	108
Hastings	119,220	16 73	63,495	14 64	69,050	14 39	116
Totals	145,669	17 18	75,256	14 09	84,924	14 69	117
Muskoka	1,846	8 35	2,728	16 14	2,025	10 89	77
Parry Sound	410	11 72	402	11 49	437	13 24	89
Algoma	2.036	14 65	402	11 49	836	13 93	105
Totals	4,292	10 87	3,532	14 78	3,298	11 82	92
The Province	5,108,976	22 91	2,412,164	14 72	3,375,063	18 98	121

VALUES—BUCKWHEAT.

TABLE No. XVI.—Showing by County Municipalities and groups of Counties the marketable value of Buckwheat in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8: also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for the four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	7,782	13 21	4,640	9 53	7,651	11 39	116
Kent	6,628	9 22	7,113	7 74	7,327	8 36	110
Elgin	11,073	9 86	8,983	6 55	10,237	7 67	129
Norfolk	42,317	10 30	33,620	6 84	37,112	8 02	128
Haldimand	8,346	8 78	4,453	5 58	5,738	7 09	124
Welland	17,727	10 11	11,761	7 42	14,291	8 22	123
Totals	93,873	10 16	70,570	7 01	82,356	8 19	124
Lambton	3,275	9 07	3,604	11 59	3,298	8 66	105
Huron	1,013	7 39	2,734	11 25	2.139	7 56	98
Bruce	1,188	4 93	5,065	10 80	2,853	7 33	67
Totals	5,476	7 41	11,403	11 15	8,290	7 87	94
Grey	2,058	8 13	1,998	5 18	2,566	7 03	116
Simcoe	1,731	7 40	3,030	6 75	2,370	6 51	114
Totals	3,789	7 78	5,028	6 02	4,936	6 77	115
Middlesex	4,115	9 27	3,965	5 13	4,293	6 89	135
Oxford	3,579	7 39	2,799	4 50	4,147	6 89	107
Brant	5,927	11 14	3,454	4 73	5.032	7 85	142
Perth	473	7 39	527	4 50	934	7 02	105
Wellington	1,164	9 86	675	9 00	872	8 81	112
Waterloo	355	7 40	963	9 00	786	8 02	92
Dufferin	850	12 32	2,016	9 60	1,129	8 49	145
Totals	16,463	9 36	14,399	5 44	17,193	7 38	127
Lincoln	6,315	10 94	4,019	7 15	4,981	8 59	127
Wentworth	9,266	13 61	3,622	7 20	6,409	9 49	143
Halton	1,094	4 93	1,161	6 75	965	5 58	88
Peel	2,817	7 39	1,397	6 75	1,715	7 62	97
York	2,241	11 09	1,395	5 63	1,654	7 76	144
Ontario	5,817	12 32	3,402	8 40	3,990	10 03	123
Durham	21,156	11 83	10,562	8 74	12,460	9 22	128
Northumberland	56,584	9 27	57,778	8 89	52,520	8 47	109
Prince Edward	114,413	15 04	58,693	8 12	75,776	10 39	145
Totals	219,703	12 18	142,029	8 34	160,470	9 38	130
Lennox and Addington	21,660	10 55	19,418	6 93	24,883	8 60	123
Frontenac	14,873	11 39	15,342	7 74	14,575	9 23	123
Leeds and Grenville	40,835	8 13	36,490	8 08	44,107	8 72	93
Dundas	21,562	13 80	12,490	7 88	17,609	11 42	121
Stormont	18,720	11 63	20,230	10 13	22,216	11 32	103
Glengarry	11,398	9 86	5,134	7 20	7.194	9 06	109
Prescott	13,043	11 64	6,178	4 50	12,617	8 38	139
Russell	6,210	10 89	5,988	6 00	7,715	8 66	126
Carleton	28,347	8 23	18,589	4 23	30,865	7 88	104
Renfrew	7,836	8 38	8,711	6 88	11,319	9 11	92
Lanark	29,701	8 04	24,652	5 20	40,721	8 03	100
Totals	214,185	9 53	173,222	6 57	233,821	8 84	108
Victoria	2,899	7 40	1,510	4 05	1,931	5 14	144
Peterborough	4,509	9 91	5,115	5 13	5,961	7 58	131
Haliburton	1,227	7 39	772	5 40	1,187	5 65	131
Hastings	37.507	10 94	32,055	7 50	37,269	9 21	119
Totals	46,142	10 39	39,452	6 82	46,348	8 55	122
Muskoka	2,067	7 89	4,316	15 75	2,746	10 60	74
Parry Sound	128	9 85	189	9 00	734	8 44	117
Algoma	759	9 86	801	9 00	542	9 34	106
Totals	2,954	8 39	5,306	13 82	4,022	9 96	84
The Province	602,585	10 47	461,409	7 19	557,436	8 77	119

VALUES—BEANS.

TABLE No. XVII.—Showing by County Municipalities and groups of Counties the marketable value of Beans in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for the four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	11,051	27 29	5,175	15 18	11,094	23 06	118
Kent	368,064	27 74	149,318	11 85	237,954	18 25	152
Elgin	25,843	27 06	12,410	13 12	19,928	20 09	135
Norfolk	7,277	28 43	3,792	12 72	6,069	15 68	181
Haldimand	5,086	24 22	808	14 69	1,866	19 03	127
Welland	10,665	21 04	2,937	10 16	7,125	14 81	142
Totals	427,986	27 44	174,440	12 00	284,036	18 35	150
Lambton	7,504	28 42	4,978	13 27	6,556	18 11	157
Huron	4,639	34 12	1,097	22 85	3,157	26 08	131
Bruce	2,749	35 24	2,467	19 58	2,199	18 48	191
Totals	14,892	31 15	8,542	15 56	11,912	19 79	157
Grey	1,567	18 88	1,453	13 71	1,615	15 38	123
Simcoe	2,340	15 92	1,836	30 60	2,003	19 45	82
Totals	3,907	16 99	3,289	19 81	3,618	17 39	98
Middlesex	7,220	28 54	1,992	12 07	4,520	18 37	155
Oxford	7,163	31 84	3,280	24 48	4,300	24 86	128
Brant	1,235	26 85	1,204	10 03	2,510	14 34	187
Perth	1,904	28 42	1,304	17 62	1,114	22 28	128
Wellington	1,023	20 46	740	17 62	800	17 02	120
Waterloo	853	28 43	548	19 57	726	19 62	145
Dufferin	478	22 76	714	26 44	460	20 91	109
Totals	19,876	28 72	9,782	16 58	14,430	19 24	149
Lincoln	5,221	30 35	1,183	11 95	2,865	20 32	149
Wentworth	3,650	34 11	1,868	17 14	2,158	23 20	147
Halton	978	22 74	628	17 94	893	18 22	125
Peel	1,273	22 73	842	19 58	845	19 65	116
York	3,766	27 29	2,049	22 52	2.749	23 50	116
Ontario	2,431	25 59	1,416	22 13	2,651	22 66	113
Durham	7.187	23 88	3,950	13 81	5,020	17 61	136
Northumberland	14,324	28 20	5,899	20 77	8,817	23 51	120
Prince Edward	10,716	23 19	4,728	10 87	8,352	16 77	138
Totals	49,546	26 33	22,563	15 60	34,350	19 99	132
Lennox and Addington	2,327	27 06	3,340	15 83	2,442	16 07	168
Frontenac	6,053	23 19	4,780	22 03	7,362	23 67	98
Leeds and Grenville	9,228	27 06	7,708	23 64	7,477	21 86	124
Dundas	9,642	22 74	5,796	19 58	5,517	21 30	107
Stormont	6,140	22 74	2,369	19 58	3,148	22 98	99
Glengarry	1,961	28 42	1,410	19 58	1,710	23 75	120
Prescott	13,379	26 49	4,949	17 07	9,028	20 85	127
Russell	3,260	29 91	1,766	13 38	3,215	19 37	154
Carleton	8,291	20 12	4,296	12 56	7,789	18 81	107
Renfrew	9,151	21 04	5,420	15 66	9,380	23 51	89
Lanark	6,588	30 36	3,948	18 11	4,051	22 26	136
Totals	76,020	24 30	45,782	17 81	61,119	21 32	114
Victoria	1,762	28 42	1,378	15 66	1,212	19 24	148
Peterborough	682	14 21	749	14 69	1,427	11 33	125
Haliburton	546	22 75	294	9 80	471	16 24	140
Hastings	10,497	23 54	2,939	13 12	5,879	21 22	111
Totals	13,487	23 25	5.360	13 64	8,989	18 16	128
Muskoka	1,019	15 92	356	16 18	789	20 76	77
Parry Sound	227	22 70	37	18 50	163	18 11	125
Algoma	796	22 74	29	14 50	264	20 31	112
Totals	2,042	18 73	422	16 23	1,216	20 27	92
The Province	607,756	26 77	270,180	13 33	419,670	18 93	141

VALUES—HAY AND CLOVER.

TABLE No. XVIII.—Showing by County Municipalities and groups of Counties the marketable value of Hay and Clover in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop. and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	931,048	24 40	597,849	16 85	677,993	18 23	134
Kent	1,116,980	20 89	834,723	17 43	875,081	16 81	124
Elgin	988,346	20 02	762,748	15 34	792,537	16 14	125
Norfolk	400,138	11 14	525,898	12 90	501,245	12 86	87
Haldimand	465,591	9 86	748,351	14 76	654,702	13 24	74
Welland	498,008	10 53	687,091	14 87	612,925	13 02	81
Totals	4,400,111	16 24	4,156,660	15 35	4,114,483	15 03	108
Lambton	976,399	18 05	926,509	18 59	859,103	16 02	113
Huron	1,571,876	16 04	1,749,728	18 01	1,478,190	15 49	104
Bruce	1,522,548	16 71	1,547,354	17 43	1,225,813	14 35	116
Totals	4,070,823	16 74	4,223,591	17 92	3,563,106	15 19	110
Grey	1,751,158	14 37	1,789,352	15 22	1,486,137	12 64	114
Simcoe	1,133,974	13 87	1,257,458	16 85	1,019,770	13 50	103
Totals	2,885,132	14 17	3,046,810	15 85	2,505,907	12 98	109
Middlesex	1,748,200	19 38	1,261,921	15 22	1,423,978	16 09	120
Oxford	1,141,059	19 38	915,191	15 22	992,597	16 28	119
Brant	255,914	9 52	447,637	13 83	393,611	12 81	74
Perth	1,404,559	20 72	1,219,438	17 78	1,115.814	16 53	125
Wellington	1,312,821	15 57	1,603,804	19 06	1,342,277	16 06	96
Waterloo	845,827	20 05	676,435	16 38	698,129	16 55	121
Dufferin	400,639	11 36	569,961	17 43	434,458	12 87	88
Totals	7,109,019	17 49	6,694,387	16 65	6,400,864	15 72	111
Lincoln	475,266	11 53	633,534	14 76	596,783	14 11	82
Wentworth	616,582	14 37	605,681	13 48	604,011	13 50	106
Halton	285,072	9 19	433,635	12 78	420.358	12 60	73
Peel	320,565	9 07	601.230	15 34	519,581	13 73	66
York	811,254	11 86	1,220,518	16 85	985,453	13 60	87
Ontario	620,409	12 20	858,962	16 04	747,095	14 21	86
Durham	478,140	11 86	672,078	16 15	591,802	13 90	85
Northumberland	614,811	11 86	681,560	12 90	702,104	13 03	91
Prince Edward	204,480	7 85	359,139	13 25	404,956	13 26	59
Totals	4,426,579	11 41	6,066,337	14 85	5,572,143	13 58	84
Lennox and Addington	435,312	8 36	456,945	8 72	582,021	11 68	72
Frontenac	490,221	7 69	519,751	8 37	653,323	10 34	74
Leeds and Grenville	1,291,566	11 53	1,507,660	13 13	1,532,303	13 40	86
Dundas	827,195	22 73	648,954	18 59	649,066	18 34	124
Stormont	835,483	24 23	553,949	17 43	588,600	18 11	134
Glengarry	1,056,256	25 90	794,134	22 31	706,156	19 77	131
Prescott	802,682	22 22	646,816	18 48	547,096	16 53	134
Russell	286,059	16 71	388,828	20 34	265,867	14 70	114
Carleton	1,064,878	17 21	1,286,706	20 68	974,852	16 07	107
Renfrew	573,136	8 36	1,026,604	15 69	682,058	10 80	77
Lanark	674,416	11 03	1,218,647	19 64	924,902	14 93	74
Totals	8,337,204	14 27	9,048,994	15 72	8,106,244	14 27	100
Victoria	386,485	11 03	549,045	13 60	451,860	11 81	93
Peterborough	322,236	8 52	403,179	10 69	410,786	10 61	80
Haliburton	152,195	13 87	156,614	16 04	124,287	12 16	114
Hastings	784,484	11 36	916,705	14 29	854,240	12 44	91
Totals	1,645,400	10 76	2,055,543	13 43	1,841,173	11 81	91
Muskoka	371,714	16 38	408,001	17 66	304,118	13 66	120
Parry Sound	110,670	11 70	120,906	15 80	100,103	11 20	104
Algoma	214,022	19 50	126,519	11 62	133,942	13 13	149
Totals	696,406	16 14	655,426	15 74	538,163	13 00	124
The Province	33,570,674	14 64	35,947,748	15 76	32,642,083	14 29	102

VALUES—POTATOES.

TABLE No. XIX.—Showing by County Municipalities and groups of Counties the marketable value of Potatoes in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	130,981	46 66	80,706	29 92	111,850	39 96	117
Kent	146,815	49 13	93,896	32 27	140,321	44 24	111
Elgin	154,093	53 32	89,855	32 16	112,099	41 21	129
Norfolk	129,985	43 27	64,371	20 81	100,112	32 42	133
Haldimand	77,099	53 95	35,632	30 90	68,687	48 17	112
Welland	94,569	42 26	69,121	30 95	82,016	36 63	115
Totals	733,542	47 77	433,581	29 14	615,085	39 83	120
Lambton	144,128	47 84	101,096	38 16	119,614	42 37	113
Huron	211,423	41 91	239,602	51 77	259,646	52 61	80
Bruce	240,188	49 45	192,665	44 89	242,908	52 33	94
Totals	595,739	46 13	533,363	46 10	622,168	50 17	92
Grey	329,648	48 63	361,344	59 97	391,776	58 88	83
Simcoe	355,771	51 58	243,617	39 87	364,140	55 53	93
Totals	685,419	50 11	604,961	49 85	755,916	57 22	88
Middlesex	265,115	50 50	191,903	39 24	223,857	42 21	120
Oxford	191,982	60 93	107,751	37 99	128,046	42 67	143
Brant	94,099	42 64	76,270	37 26	95,977	45 12	95
Perth	186,991	51 96	184,439	53 91	175,386	49 46	105
Wellington	272,581	45 20	281,409	53 07	285,536	50 67	89
Waterloo	151,140	52 72	132,087	48 65	144,165	51 25	102
Dufferin	189,834	58 65	194,549	68 53	180,112	59 54	99
Totals	1,351,742	51 32	1,168,408	48 58	1,233,079	48 45	106
Lincoln	94,909	47 36	73,431	40 10	79,616	43 51	109
Wentworth	157,883	46 41	137,339	46 91	162,185	51 02	91
Halton	76,647	49 67	38.081	26 26	71,380	46 84	106
Peel	137,467	44 79	89,538	32 74	118,589	42 78	105
York	423,204	53 79	293,608	45 82	312,949	43 33	124
Ontario	282,168	60 64	198,481	52 22	220,744	56 18	108
Durham	142,376	45 65	130,368	41 82	154,201	50 76	90
Northumberland	192,461	41 87	171,041	38 65	175,480	41 78	100
Prince Edward	104,120	42 79	77,460	35 19	100,880	42 46	101
Totals	1,611,235	49 29	1,209,347	41 85	1,396,024	46 42	106
Lennox and Addington	98.527	36 01	141,441	43 17	159,394	49 86	72
Frontenac	159,702	37 75	140,264	43 03	157,212	42 22	89
Leeds and Grenville	303,223	41 11	410,209	62 04	385,835	55 66	74
Dundas	88,135	35 28	158,770	74 57	145,762	61 22	58
Stormont	80,839	40 77	150,054	81 64	109,304	55 23	74
Glengarry	94,149	42 80	168,731	75 36	128,325	53 22	80
Prescott	139,797	63 40	157,298	66 40	145,089	60 23	105
Russell	34,569	27 61	72,349	51 42	63,027	42 67	65
Carleton	249,784	40 73	291,069	61 12	300,535	52 32	78
Renfrew	141,531	40 04	189,505	50 24	231,071	60 55	66
Lanark	126,175	37 91	175,351	52 28	195,002	55 52	68
Totals	1,516,431	40 47	2,055,041	58 69	2,020,556	53 75	75
Victoria	152,825	42 07	153,910	50 35	157,373	50 65	83
Peterborough	82,211	29 13	101,904	40 10	119,094	45 63	64
Haliburton	21,178	34 27	28,021	43 18	32,041	52 18	66
Hastings	199,771	36 80	196,358	41 64	277,622	52 63	70
Totals	455,985	36 48	480,193	43 80	586,130	50 50	72
Muskoka	55,776	39 09	78,478	55 38	77,839	56 57	69
Parry Sound	21,249	26 63	60,119	96 19	45,898	69 44	38
Algoma	33,615	45 43	82,293	113 04	53,436	75 37	60
Totals	110,640	37 32	220,890	79 74	177,173	64 52	58
The Province	7,060,733	45 87	6,705,784	47 80	7,406,131	49 87	92

VALUES—CARROTS.

TABLE No. XX.—Showing by County Municipalities and groups of Counties the marketable value of Carrots in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for the four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	6,539	53 60	5,684	56 84	7,439	74 39	72
Kent	12,746	75 87	8,759	59 18	14,767	92 31	82
Elgin	18,524	96 48	10,627	63 63	14,208	94 09	103
Norfolk	17,724	89 52	5,170	35 66	10,773	79 80	112
Haldimand	11,784	86 65	4,533	53 33	7,733	79 72	109
Welland	11,770	101 47	4,290	41 65	7,761	93 51	109
Totals	79,087	84 86	39.063	52 22	62,681	86 34	100
Lambton	24,134	89 06	11,857	71 00	17,024	91 04	98
Huron	48,234	94 58	30,152	78 52	49,639	113 07	84
Bruce	24,071	79 71	18,190	59 64	24,356	92 96	86
Totals	96,439	89 05	60,199	70 33	91,019	102 50	87
Grey	37,466	80 40	29,563	66 58	50,530	103 55	78
Simcoe	49,475	85 89	25,312	48 21	53,619	96 09	89
Totals	86,941	83 44	54,875	56 63	104,149	99 57	84
Middlesex	41,819	86 40	26,464	61 83	40,836	88 39	98
Oxford	50,100	106 37	21,231	85 61	34,170	106 45	100
Brant	27,916	125 75	11,351	70 50	23,356	126 25	100
Perth	36,339	92 70	39,124	95 42	46,709	116 48	80
Wellington	23,115	77 05	26,680	69 84	24,202	84 92	91
Waterloo	41,506	99 53	13,321	60 55	33,553	111 10	90
Dufferin	9,105	60 30	12,325	99 40	12,525	95 61	63
Totals	229,900	94 34	150,496	76 28	215,351	103 19	91
Lincoln	18,113	107 82	6,176	62 38	11,176	97 17	111
Wentworth	26,725	96 83	14,819	67 67	23,163	108 24	89
Halton	19,971	123 28	7,347	93 00	14,076	114 44	108
Peel	33,977	104 87	20,920	75 25	24,422	86 60	121
York	77,910	109 42	32,500	68 86	72,391	120 45	91
Ontario	66,923	142 39	29,750	77 07	54,554	118 86	120
Durham	54,152	92 57	26,654	59 76	47,876	100 37	92
Northumberland	34,680	86 26	9,870	58 40	23,111	90 28	96
Prince Edward	10,945	87 56	466	17 26	3,897	73 53	119
Totals	343,396	106 51	148,502	68 28	274.666	106 46	100
Lennox and Addington	5,395	81 74	4,477	57 40	4,742	72 95	112
Frontenac	15,759	57 51	7,933	53 60	14,198	74 73	77
Leeds and Grenville	15,785	83 08	12,281	76 76	12,997	83 85	99
Dundas	6,693	90 45	3,150	70 00	4,295	84 22	107
Stormont	3,457	40 20	952	28 00	1,728	46 70	86
Glengarry	3,323	53 60	4,004	77 00	2,972	63 23	85
Prescott	4,434	86 94	4,687	57 86	4,377	79 58	109
Russell	13,909	80 40	11,921	91 00	11.877	90 66	89
Carleton	33,073	61 93	24,549	50 10	40,113	79 75	78
Renfrew	3,015	33 50	4,848	49 47	6,657	68 62	49
Lanark	7,323	71 79	4,720	40 00	10,019	85 63	84
Totals	112,166	65 90	83,522	58 20	113,975	78 71	84
Victoria	44,617	115 59	23,795	70 82	34,036	107 03	108
Peterborough	26,991	76 25	11,139	41 41	24,504	79 30	96
Haliburton	1,541	67 00	1,890	70 00	2,051	93 23	72
Hastings	15,707	79 33	7,280	41 60	15,377	90 45	88
Totals	88,856	92 46	44,104	54 65	75,968	92 76	100
Muskoka	4,776	58 96	4,676	51 38	5,090	62 84	94
Parry Sound	1,222	50 92	2,587	92 39	2,082	90 52	56
Algoma	2,037	53 61	1,568	56 00	2,363	71 61	75
Totals	8,035	56 19	8,831	60 07	9,535	69 60	81
The Province	1,044,820	90 66	589.592	64 72	947,344	97 35	93

VALUES—TURNIPS.

TABLE No. XXI.—Showing by County Municipalities and groups of Counties the marketable value of Turnips in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for the four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	7,945	41 60	8,434	57 77	13,622	69 50	60
Kent	18,484	63 09	18,085	70 10	25,462	86 02	73
Elgin	34,142	84 51	24,718	78 47	25,924	85 56	99
Norfolk	151,280	92 81	94,311	82 08	99,365	94 10	99
Haldimand	20,457	72 80	3,750	45 73	7,976	65 92	110
Welland	16,557	83 20	13,010	61 95	14,345	86 40	96
Totals	248,865	83 01	162,308	75 14	186,694	87 32	95
Lambton	32,179	84 91	13,393	59 00	19,879	79 52	107
Huron	551,434	81 83	647,089	98 30	639,671	98 52	83
Bruce	489,967	80 60	484,863	83 60	581,345	102 01	79
Totals	1,073,580	81 35	1,145,345	90 83	1,240,895	99 73	82
Grey	696,412	73 63	873,357	88 80	880,140	96 19	77
Simcoe	316,048	82 91	188,985	59 71	322,210	92 03	90
Totals	1,012,460	76 30	1,062,342	81 72	1,202,350	95 04	80
Middlesex	186,170	93 60	135,470	82 40	153,881	91 05	103
Oxford	625,093	99 24	628,278	123 07	580,850	108 15	92
Brant	373,463	106 31	294,920	100 79	320,558	112 91	94
Perth	366,882	88 15	449,291	96 89	434,592	97 07	91
Wellington	1,205,613	90 11	1,219,130	95 31	1,341,474	103 77	87
Waterloo	481,653	95 68	510,719	97 58	499,807	98 54	97
Dufferin	171,943	68 64	227,413	96 81	198,965	85 03	81
Totals	3,410,817	92 48	3,465,221	99 90	3,530,127	101 69	91
Lincoln	29,137	101 17	16,819	68 09	19,707	84 58	120
Wentworth	367,595	114 34	237,548	87 27	310,932	118 90	96
Halton	236,190	115 44	184,954	100 79	197,605	108 10	107
Peel	138,462	85 15	101,930	68 27	109,217	78 86	108
York	381,325	90 13	276,629	82 72	323,075	96 38	94
Ontario	1,242,547	97 68	1,112,448	87 93	1,172,921	96 17	102
Durham	502,448	93 18	427,898	83 12	536,659	98 25	95
Northumberland	300,877	83 55	255,033	73 01	313,310	90 95	92
Prince Edward	12,376	70 72	5,407	51 99	7,495	71 38	99
Totals	3,210,957	96 44	2,618,666	84 37	2,990,921	97 68	99
Lennox and Addington	4,394	45 30	10,488	65 14	8,353	63 76	71
Frontenac	27,608	49 57	15,928	57 71	31,391	71 50	69
Leeds and Grenville	22,957	68 12	18,442	76 21	19,093	82 30	83
Dundas	5,970	72 80	1,549	51 63	3,484	71 10	102
Stormont	2,787	41 60	3,120	66 38	4,893	65 24	64
Glengarry	1,997	83 21	8,363	103 25	4,955	99 10	84
Prescott	9,874	82 28	11,026	64 48	12,845	95 15	86
Russell	27,290	83 20	43,896	152 42	27,250	101 68	82
Carleton	102,761	63 67	65,877	52 12	110,795	75 42	84
Renfrew	30,351	49 92	30,155	56 05	40,828	67 04	74
Lauark	43,171	76 27	28,537	50 42	38,527	75 99	100
Totals	279,160	63 45	237,381	64 79	305,414	76 24	83
Victoria	369,569	94 64	299,510	80 47	327,082	90 81	104
Peterborough	88,778	56 76	65,597	51 09	90,647	69 51	82
Haliburton	19,455	59 13	18,356	70 06	21,892	68 41	86
Hastings	71,997	55 68	41,396	48 36	61,845	67 81	82
Totals	549,799	77 53	424,859	69 38	501,466	81 70	95
Muskoka	52,301	49 11	82,566	69 32	75,598	67 32	73
Parry Sound	40,966	81 12	34,910	71 54	43,718	76 56	106
Algoma	30,264	62 40	33,372	92 19	38,233	72 27	86
Totals	123,531	60 11	150,848	73 91	157,549	70 87	85
The Province	9,909,169	87 55	9,266,970	87 99	10,115,416	96 40	91

VALUES—CORN TO TURNIPS.

TABLE No. XXII.—Showing by County Municipalities and groups of Counties the aggregate marketable value of Corn, Buckwheat, Beans, Hay, Potatoes, Carrots and Turnips in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for the four years 1885-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	2,054,350	26 48	1,235,954	17 97	1,525,259	20 76	128
Kent	2,354,433	23 57	1,440,963	16 32	1,810,355	18 87	125
Elgin	1,681,679	23 50	1,116,754	16 16	1,284,440	18 56	127
Norfolk	1,147,772	18 56	852,213	13 29	1,009,648	16 23	114
Haldimand	668,689	12 58	818,700	15 13	782,599	14 61	86
Welland	831,942	14 02	880.918	15 76	855,181	14 86	94
Totals	8,738,865	20 64	6,345,502	15 85	7,267,482	17 64	117
Lambton	1,398,290	20 73	1,149,770	19 24	1,154,843	17 91	116
Huron	2,438,079	21 68	2,692,423	24 49	2,463,090	22 60	96
Bruce	2,298,713	22 17	2,256,574	22 52	2,089,890	21 51	103
Totals	6,135,082	21 63	6,098,767	22 60	5,707,823	21 09	103
Grey	2,830,351	20 26	3,062,072	22 72	2,819,637	20 92	97
Simcoe	1,882,259	19 91	1,726,032	20 14	1,776,536	20 31	98
Totals	4,712,610	20 12	4,788,104	21 72	4,596,173	20 68	97
Middlesex	2,575,599	22 91	1.752,888	17 54	2,054,503	19 15	120
Oxford	2,250,901	28 13	1,787,569	23 35	1,893,339	24 14	117
Brant	896,747	22 62	890,388	21 02	927,098	22 51	100
Perth	2,021,369	26 23	1,906,169	24 43	1,788,078	23 29	113
Wellington	2,831,134	26 70	3,139,470	30 41	3,003,630	29 15	92
Waterloo	1,544,988	29 84	1,342,101	26 65	1,392.762	27 08	110
Dufferin	774,592	18 73	1,008,103	26 28	828,826	20 99	89
Totals	12,895,330	25 37	11,826,688	24 19	11,888,236	23 89	106
Lincoln	832,940	15 89	827,027	15 96	840,169	16 33	97
Wentworth	1,302,652	23 57	1,066,824	19 18	1,189,324	21 43	110
Halton	658,370	17 95	672,924	17 51	722,097	18 93	95
Peel	647,556	15 54	820,392	18 50	781,598	18 16	86
York	1,741,741	20 87	1,843,590	21 92	1,722,684	20 21	103
Ontario	2,301,538	31 63	2,232,702	30 51	2,243,395	31 12	102
Durham	1,233,873	22 96	1,285,871	24 08	1,368,570	24 95	92
Northumberland	1,294,111	17 91	1,228,082	17 23	1,327,215	18 38	97
Prince Edward	589,803	13 40	560,820	13 34	668,688	14 59	92
Totals	10,602,584	20 70	10,538,232	20 49	10,863,740	20 96	99
Lennox and Addington	614,574	10 23	656,780	10 82	811,173	13 93	73
Frontenac	747,248	10 31	722,283	10 41	904,689	12 73	81
Leeds and Grenville	1,836,415	13 82	2,083,560	15 84	2,092,389	15 83	87
Dundas	1,007,318	23 15	864,464	21 46	856,957	20 75	112
Stormont	971,106	24 37	749,573	20 27	748,234	19 80	123
Glengarry	1,178,261	26 14	988,578	25 20	859,143	21 67	121
Prescott	1,008,986	24 35	847,234	21 05	751,274	19 32	126
Russell	376,290	18 84	527,692	23 51	383,174	17 92	105
Carleton	1,512,204	19 90	1,703,518	22 90	1,482,366	20 03	99
Renfrew	769,116	10 30	1,272,579	17 70	986,761	14 15	73
Lanark	905,486	12 82	1,470,271	20 42	1,227,575	16 94	76
Totals	10,927,004	16 15	11,886,532	18 03	11,103,735	16 91	96
Victoria	978,855	22 09	1,036,854	21 38	983,554	21 27	104
Peterborough	530,001	12 20	590,705	13 66	656,977	14 86	82
Haliburton	197,299	16 15	206,980	18 87	183,185	15 92	101
Hastings	1,239,183	14 25	1,290,228	15 96	1,321,282	15 70	91
Totals	2,945,338	15 76	3,124,767	17 03	3,144,998	16 90	93
Muskoka	489,499	18 96	581,121	22 13	468,205	18 48	103
Parry Sound	174,872	16 12	219,150	24 76	193,135	18 71	86
Algoma	283,529	22 70	244,984	20 19	229,616	19 79	115
Totals	947,900	19 28	1,045,255	22 12	890,956	18 85	102
The Province	57,904,713	20 14	55,653,847	19 99	55,463,143	19 73	102

VALUES OF ALL FIELD CROPS.

TABLES No. XXIII.—Showing oy County Municipalities and groups of Counties the total marketable value of all field crops in Ontario in the years 1887 and 1888, with the yearly average for the seven years 1882-8; also the average value of produce per acre under crop, and the per cent. ratio of this average in 1888 to that of the seven years 1882-8.

Counties.	1888.		1887.		Yearly average for the seven years 1882-8.		Per cent. ratio.
	Value.	Value per acre.	Value.	Value per acre.	Value.	Value per acre.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	3,557,665	23 40	2,251,466	15 91	2,645,723	18 50	126
Kent	4,616,864	21 00	2,903,747	13 86	3,635,431	17 43	120
Elgin	3,499,505	20 27	2,175,994	12 80	2,774,030	16 78	121
Norfolk	2,603,888	16 52	1,643,108	10 35	2,205,894	14 66	113
Haldimand	2,031,372	14 22	1,665,775	11 86	1,930,550	13 79	103
Welland	1,579,992	14 13	1,440,561	13 04	1,529,111	13 92	102
Totals	17,889,286	18 70	12,080,651	12 98	14,720,739	16 05	117
Lambton	3,474,796	19 25	2,378,254	14 07	2,694,157	16 04	120
Huron	5,902,857	17 85	5,321,616	16 04	5,797,975	17 59	101
Bruce	4,925,357	17 14	4,237,068	15 19	4,658,008	16 96	101
Totals	14,303,010	17 91	11,936,938	15 31	13,150,140	17 03	105
Grey	5,726,465	15 68	5,312,020	15 17	5,820,281	16 21	97
Simcoe	5,243,349	16 17	4,135,907	13 56	4,924,838	16 35	99
Totals	10,969,814	15 91	9,447,927	14 42	10,745,119	16 27	98
Middlesex	6,014,448	19 19	3,955,340	13 49	5,040,795	16 76	114
Oxford	4,739,536	21 54	3,427,144	15 88	3,984,421	18 75	115
Brant	2,105,414	17 56	1,740,466	14 13	2,079,431	17 55	100
Perth	4,730,938	20 59	3,686,766	15 90	4,231,141	18 33	112
Wellington	5,942,175	19 66	5,364,526	17 94	5,774,246	19 75	100
Waterloo	3,545,204	21 21	2,656,269	16 42	3,173,833	19 61	108
Dufferin	2,139,511	16 53	1,974,880	15 87	1,972,882	16 07	103
Totals	29,217,226	19 72	22,805,391	15 73	26,256,749	18 24	108
Lincoln	1,481,988	14 74	1,327,484	12 97	1,559,445	15 21	97
Wentworth	2,652,493	18 51	2,016,102	13 94	2,488,803	17 58	105
Halton	1,686,632	16 15	1,505,068	14 17	1,740,745	16 47	98
Peel	2,706,458	16 10	2,155,365	13 45	2,607,891	16 38	98
York	5,903,631	19 35	4,470,729	14 87	5,135,278	17 37	111
Ontario	5,614,832	21 99	4,209,873	17 22	4,873,868	20 00	110
Durham	3,403,308	16 95	2,864,478	14 47	3,499,171	17 26	98
Northumberland	2,901,778	13 25	2,540,544	11 61	3,111,710	14 28	93
Prince Edward	1,557,275	11 72	1,296,427	9 95	1,584,073	12 16	96
Totals	27,908,395	17 13	22,386,070	13 94	26,600,984	16 63	103
Lennox and Addington	1,319,008	9 75	1,420,762	10 08	1,811,553	12 67	77
Frontenac	1,509,385	10 57	1,201,914	9 20	1,755,421	12 40	85
Leeds and Grenville	3,287,504	13 84	3,057,496	13 18	3,452,439	14 47	96
Dundas	1,786,402	20 07	1,320,409	15 94	1,519,918	17 61	114
Stormont	1,498,403	20 49	1,152,773	16 11	1,233,236	16 92	121
Glengarry	1,764,637	19 31	1,503,775	17 55	1,448,823	16 74	115
Prescott	1,696,004	19 89	1,367,830	15 74	1,304,660	15 35	130
Russell	699,340	15 47	826,240	16 28	730,772	14 83	104
Carleton	3,171,874	16 75	2,961,321	16 48	2,979,185	16 29	103
Renfrew	1,736,807	10 32	2,050,494	12 53	2,147,742	13 20	78
Lanark	1,702,368	11 85	2,112,460	14 57	2,141,724	14 83	80
Totals	20,171,732	14 40	18,975,474	13 85	20,525,473	14 73	98
Victoria	2,812,810	16 17	2,407,968	13 86	2,692,059	15 62	104
Peterborough	1,606,458	11 58	1,451,864	10 51	1,881.279	13 38	87
Haliburton	287,439	13 36	285,181	14 53	269,818	13 65	98
Hastings	2,506,818	11 64	2,314,478	11 19	2,978,374	13 38	87
Totals	7,213,525	13 12	6,459,491	12 00	7,821,530	14 08	93
Muskoka	646,779	16 01	717,984	17 67	621.487	16 03	100
Parry Sound	265,556	14 15	298,986	19 07	297,791	15 99	88
Algoma	560,169	19 33	470,957	17 88	474,049	17 94	108
Totals	1,472,504	16 70	1,487,927	18 00	1,393,327	16 62	100
The Province	129,145,492	17 00	105,579,869	14 25	121,214,061	16 33	104

VALUES—WOOL.

TABLE No. XXIV.—Showing by County Municipalities and groups of Counties the marketable value of the Wool Clip in Ontario in the years 1887 and 1888, with the yearly average for the four years 1885-8; also the average value of clip per fleece, and the per cent. ratio of this average in 1888 to that of the four years 1885-8.

Counties.	1888.		1887.		Yearly average for the four years 1885-8.		Per cent. ratio.
	Value.	Value per fleece.	Value.	Value per fleece.	Value.	Value per fleece.	
	$	$ c.	$	$ c.	$	$ c.	
Essex	15,740	1 21	17,455	1 27	16,592	1 12	108
Kent	20,796	1 21	18,411	1 30	21,075	1 13	107
Elgin	23,322	1 27	23,367	1 28	21,316	1 14	111
Norfolk	13,873	1 09	16,005	1 18	15,734	1 04	105
Haldimand	16,098	1 21	21,400	1 32	19,743	1 18	103
Welland	12,784	1 02	15,900	1 14	14,550	99	103
Totals	102,613	1 18	112,538	1 25	109,010	1 10	107
Lambton	23,743	1 22	23,981	1 34	24,461	1 16	105
Huron	46,732	1 17	50,895	1 27	50,169	1 11	105
Bruce	51,863	1 16	52,338	1 26	51,779	1 11	104
Totals	122,338	1 17	127,214	1 28	126,409	1 12	105
Grey	71,618	1 14	74,858	1 25	73,982	1 08	105
Simcoe	46,887	1 13	49,056	1 23	50,712	1 09	103
Totals	118,505	1 13	123,914	1 24	124,694	1 09	104
Middlesex	35,187	1 24	35,090	1 36	36,782	1 18	105
Oxford	17,323	1 16	19,169	1 26	19,046	1 11	105
Brant	11,698	1 18	13,388	1 21	14,117	1 10	107
Perth	30,273	1 15	33,581	1 28	32,979	1 11	104
Wellington	48,235	1 14	49,751	1 26	50,902	1 11	103
Waterloo	20,570	1 07	22,301	1 18	22,495	1 04	103
Dufferin	18,408	1 13	19,180	1 27	19,516	1 08	105
Totals	181,694	1 16	192,460	1 27	195,837	1 11	105
Lincoln	9,159	1 00	9,635	1 15	10,057	1 01	99
Wentworth	15,284	1 20	15,436	1 31	15,760	1 13	106
Halton	12,171	1 22	13,958	1 38	13,557	1 21	101
Peel	18,054	1 30	20,841	1 50	19,785	1 28	102
York	28,636	1 21	30,443	1 32	32,139	1 17	103
Ontario	29,530	1 21	28,651	1 38	30,900	1 20	101
Durham	21,879	1 16	23,131	1 25	23,039	1 13	103
Northumberland	21,706	1 19	25,541	1 29	23,517	1 13	105
Prince Edward	8,394	1 02	8,221	1 15	9,049	1 01	101
Totals	164,813	1 19	175,857	1 32	177,803	1 15	103
Lennox and Addington	12,293	1 13	16,436	1 18	15,776	1 04	109
Frontenac	14,649	1 07	17,928	1 14	17,726	1 00	107
Leeds and Grenville	28,175	97	32,114	1 07	33,516	95	102
Dundas	8,558	1 03	10,236	1 14	10,277	98	105
Stormont	9,542	1 08	11,386	1 23	10,106	1 03	105
Glengarry	12,077	96	13,149	1 05	13,710	92	104
Prescott	10,404	1 04	9,151	1 12	10,591	96	108
Russell	5,859	98	6,917	1 07	7,367	94	104
Carleton	27,160	1 05	28,368	1 17	27,755	1 01	104
Renfrew	34,987	95	34,212	1 02	32,743	89	107
Lanark	26,130	98	33,625	1 08	31,214	95	103
Totals	189,834	1 01	213,522	1 10	210,781	96	105
Victoria	21,432	1 14	27,287	1 29	23,828	1 10	104
Peterborough	15,767	1 08	15,587	1 17	16,892	1 03	105
Haliburton	3,015	1 00	2,999	1 10	3,129	95	105
Hastings	23,214	1 02	24,688	1 10	24,880	97	105
Totals	63,428	1 07	70,561	1 18	68,729	1 02	105
Muskoka	6,212	1 10	7,063	1 19	6,516	1 05	105
Parry Sound	2,781	1 19	2,151	1 26	2,447	1 09	109
Algoma	4,752	1 22	4,193	1 32	4,074	1 17	104
Totals	13,745	1 16	13,407	1 24	13,037	1 09	106
The Province	956,970	1 12	1,029,473	1 23	1,026,300	1 07	105

FARM WAGES.

TABLE No. XXV.—Showing by County Municipalities and groups of Counties the average Wages of Farm Laborers and Domestic Servants in Ontario in 1887 and 1888, and the average for the seven years 1882-8.

Counties.	Farm laborers.												Domestics per month with board.	
	Per year—						Per month—							
	With board.			Without board.			With board.			Without board.				
	1888	1887	1882-8	1888	1887	1882-8	1888	1887	1882-8	1888	1887	1882-8	1888	1887
	$	$	$	$	$	$	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Essex	156	163	160	266	256	256	16 93	16 92	17 50	27 01	26 13	27 17	6 39	6 21
Kent	163	158	171	251	242	263	17 20	17 11	18 19	26 49	25 61	27 00	7 12	6 16
Elgin	166	162	168	248	241	250	17 05	17 18	18 09	27 09	26 44	27 27	6 74	6 36
Norfolk	140	148	154	229	226	237	15 16	15 32	16 27	21 68	23 25	23 99	5 79	5 50
Haldimand	145	149	154	247	243	242	16 26	17 11	17 53	25 33	26 68	26 82	5 95	5 86
Welland	147	144	147	240	245	244	16 23	16 64	16 79	25 51	26 30	26 94	6 30	6 12
Group	154	154	160	248	241	249	16 56	16 72	17 56	25 50	25 64	26 51	6 41	6 02
Lambton	161	162	169	265	254	268	17 15	17 31	18 14	26 93	27 21	27 89	6 51	6 41
Huron	158	158	164	254	256	257	17 06	17 00	18 03	26 14	26 61	27 51	6 22	5 79
Bruce	155	158	161	251	254	254	17 42	17 33	18 18	27 43	27 24	27 62	5 81	5 64
Group	158	159	164	256	255	259	17 21	17 19	18 12	26 81	27 00	27 70	6 13	5 88
Grey	152	153	157	241	248	244	16 89	16 76	17 63	26 30	25 56	26 85	6 40	5 78
Simcoe	158	158	163	263	260	265	17 14	17 15	18 36	27 48	26 74	28 35	6 15	5 83
Group	155	155	160	251	254	255	17 01	16 95	18 06	26 86	26 17	27 67	6 28	5 80
Middlesex	156	159	166	242	245	250	16 81	16 81	18 39	25 98	24 92	27 15	6 68	6 22
Oxford	157	164	165	246	243	250	16 40	16 48	17 14	25 43	24 94	25 99	6 65	6 30
Brant	152	156	160	245	259	247	15 87	16 00	17 21	25 72	25 50	25 99	6 40	6 30
Perth	156	160	164	242	259	257	17 11	17 54	18 72	27 54	27 21	28 83	6 20	6 09
Wellington	162	160	164	247	255	257	16 95	16 86	17 62	26 55	26 82	27 41	6 26	6 16
Waterloo	149	154	155	261	254	253	15 94	17 18	17 41	26 82	26 95	26 70	6 08	6 12
Dufferin	148	155	155	248	244	251	16 89	16 93	17 75	27 45	26 35	27 82	5 91	5 87
Group	155	159	162	247	251	252	16 65	16 82	17 76	26 40	25 92	26 97	6 37	6 17
Lincoln	157	156	159	243	254	245	17 18	17 67	17 71	26 54	26 17	26 29	5 99	6 12
Wentworth	159	160	158	260	249	254	17 07	16 59	17 56	26 66	26 39	27 18	6 69	6 62
Halton	167	170	170	250	271	265	17 38	17 82	18 36	26 53	27 16	27 85	7 11	7 09
Peel	157	168	176	270	259	267	17 46	17 63	18 55	27 63	26 93	28 43	7 16	6 95
York	166	169	170	263	269	265	17 02	16 85	17 96	27 47	25 73	27 98	6 51	6 30
Ontario	163	166	168	255	244	261	16 35	16 12	17 75	26 19	26 11	27 78	6 14	6 02
Durham	155	157	163	251	257	250	16 32	17 73	17 30	25 24	26 09	26 21	6 53	5 79
Northumberland	150	153	156	237	232	244	15 84	16 31	16 95	25 09	24 54	25 78	6 12	6 00
Prince Edward	154	140	152	238	224	229	16 61	15 76	16 81	23 63	22 91	24 02	5 96	5 72
Group	159	162	164	252	253	253	16 84	16 79	17 70	26 34	25 81	26 90	6 47	6 30
Lennox and Add.	151	148	155	227	224	236	16 10	15 66	16 82	23 97	22 38	25 55	5 26	5 49
Frontenac	156	148	154	246	238	249	17 10	16 00	17 55	26 79	24 41	26 75	5 83	6 50
Leeds and Gren.	161	158	165	255	251	254	17 96	17 18	18 38	26 03	25 19	26 71	7 00	6 27
Dundas	149	168	159	238	254	239	16 98	17 61	17 67	27 52	26 76	27 89	6 61	6 05
Stormont	162	155	166	270	236	244	17 83	16 69	18 69	27 65	25 30	27 96	6 00	6 08
Glengarry	144	149	160	245	264	251	17 33	16 98	18 51	26 87	26 30	27 99	6 46	5 79
Prescott	150	160	164	254	255	262	18 08	17 65	19 03	27 56	26 20	28 24	5 26	6 13
Russell	145	153	166	259	256	256	17 53	16 88	18 73	26 82	25 67	27 45	5 48	5 00
Carleton	167	164	166	265	271	260	17 61	17 39	17 82	28 19	26 52	27 82	6 81	6 46
Renfrew	159	165	171	257	247	267	17 25	17 03	18 16	27 05	26 66	27 81	5 37	5 46
Lanark	173	172	176	278	267	271	17 98	17 48	18 69	27 08	27 31	27 72	6 18	6 34
Group	157	158	164	252	249	252	17 43	16 98	18 26	26 72	25 52	27 09	5 98	6 00
Victoria	169	166	169	253	257	255	16 77	16 26	17 87	25 79	25 30	27 24	6 33	5 96
Peterborough	160	165	170	257	262	263	18 10	16 86	18 59	26 53	28 15	26 32	6 80	6 01
Haliburton	151	155	163	253	252	262	17 54	17 50	18 52	28 36	27 63	28 86	5 41	5 23
Hastings	157	154	161	250	252	253	16 91	16 55	17 42	26 00	26 25	26 13	5 46	5 49
Group	160	161	166	253	256	256	17 34	16 63	18 02	26 37	26 81	27 28	6 06	5 73
Muskoka	167	171	170	277	259	274	19 07	18 01	19 45	29 43	27 21	29 40	6 48	5 77
Parry Sound	138	174	170	250	261	270	20 29	18 85	19 60	31 09	27 57	30 03	6 96	6 32
Algoma	182	177	178	256	271	276	20 26	18 80	20 71	28 77	26 55	30 26	6 13	6 32
Group	170	173	174	267	262	275	19 62	18 31	19 78	29 40	27 10	29 76	6 43	6 05
The Province	157	159	163	251	250	254	16 99	16 91	17 87	26 50	26 04	27 25	6 28	6 05

ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES

FOR THE

PROVINCE OF ONTARIO,

1888.

PART IV.—WAGES AND COST OF LIVING.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.

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1889.

CONTENTS.

PAGE.

LETTER OF TRANSMISSION. 1

PART IV.—LABOR, WAGES AND COST OF LIVING.

Statistics of Urban Wage-earners: 3

The collection of wage statistics, 3—Instructions to collectors of labor statistics, 4—Circular to wage-earners, 4—Schedule A, 5—Schedule B, 5—Circular to employers of labor, 6—Sample sheet, 6.

Reports from Collectors: 7

Relation of wage-earners to employers and employment, 7—Payment of wages, 7—Accidents to workers, 9—Health and safety of workers, 10—Running time of shops and factories, 12—Short hours of labor, 14—Industrial strikes and lock-outs, 15—Organized labor, 16—Reading rooms and libraries, 18—Special subjects, 19—Difficulties in collecting statistics, 19.

Weekly Wages: 20

Number of returns, 20—Employers' returns, 20—Location of industries, 21—Employés' returns by occupations, 21—Employers' returns by occupations, 23—Employés wages compared by localities, 24—Comparative summary by averages, 25—Range of weekly wages by localities, 26—Leading trades compared, 28—Average from employers and employés, 29—Other trades compared, 29.

Yearly Statement of Wages and Cost of Living: 31

Statistics by towns and cities, 31—Almonte, 31—Bowmanville, 32—Brantford, 32—Brockville, 33—Carleton Place, 33—Chatham, 34—Cobourg, 34—Cornwall, 35—Galt, 35—Gananoque, 36—Guelph, 36—Hamilton, 37—Kingston, 37—London, 38—Oshawa, 38—Ottawa, 39—Perth, 39—Peterborough, 40—St. Catharines, 40—St. Thomas, 41—Smith's Falls, 41—Stratford, 41—Toronto, 42—Uxbridge, 42—Aggregates and averages for the Province, 43.

Classes of Workers Summarised by Towns and Cities: 44

Males with dependents, owners, 44—Males with dependents, tenants, 45—Other workers with dependents, 46—Total males with dependents, 46—Total workers with dependents, 47—Males over sixteen without dependents, 48—Other workers without dependents, 49—Total workers without dependents, 50—All classes of workers, 51—Total male workers over sixteen, 52—An average week, 53.

Analysis of Cost of Living: 53

Rent, fuel, clothing and food, 53—Extra earnings, society dues and insurance, 55.

Comparison by Occupations: 56

Leading trades compared, 56—Blacksmiths, 56—Carpenters, 57—Machinists, 57—Moulders, 58—Painters, 58—The five trades, 59—Other trades compared, 60.

Classification of Workers by Ranges: 61

Number of dependents, 61—Range of dependents by localities, 62—Days employed in the year, 62—Range of days employed by localities, 64—Total earnings, 65—Range of total earnings by localities, 66—Cost of living, 67—Range of cost of living by localities, 68—Surplus earnings (by classes), 69—Average of the combined classes, 70—Distribution of savings compared, 70—Range of surplus or deficit by localities, 71—Relation of earnings to cost of living, 72 and 73.

PAGE.

WEEKLY WAGES: 74

TABLE I.—Showing by occupations and sub-occupations the average hours employed and wages earned for a representative week in the last six months of 1888 in 227 cities, towns and villages of Ontario, based on returns of 25,006 work-people collected from employers, and 2,752 collected from employés........ 74

YEARLY WAGES AND COST OF LIVING: 81

TABLE II.—Showing by occupations the averages of time employed, yearly earnings and cost of living for the year 1888, based on the returns of 2,752 work-people, collected in twenty-four towns and cities of Ontario, classified by sex and age and with or without dependents...... 81

TIME EMPLOYED AND WAGES EARNED: 87

TABLE III.—Being a supplement to Table II, showing the time employed and yearly wages of certain occupations, subdivided for other purposes in the preceding table into workers with and without dependents........ 87

THE ROYAL LABOR COMMISSION'S REPORT: 88

Introductory, 88—Accidents, 88—Apprentices, 90—Arbitration and conciliation, 93—Blacklisting, 94—Child labor, 96—Condition of the working class, 99—Constancy of employment, 101—Convict labor, 102—Co-operation, 105—Cost of living, 106—Dwellings of the working classes, 107—Employers' liability, 109—Factory laws and inspection, 111—Female labor, 112—The fining system, 114—Hours of labor. 116—Immigration and its effects, 122—Industrial and technical training, 126—Organized labor and its effects, 130—Purchasing power of wages, 135—Rents of workingmen's houses, 136—Sailors and shipping, 137—Sanitary condition of workshops and dwellings, 141—Sick and death benefits, 144.

SEVENTH ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES.

PART IV.

To the Honorable Charles Drury, Minister of Agriculture :

Sir,—I have the honor to submit herewith a report on the Wages and Cost of Living of the working classes in the towns and cities of Ontario, being Part IV of the Report of the Bureau of Industries for 1888.

Your obedient servant,

A. BLUE, Secretary.

PART IV.

LABOR, WAGES AND COST OF LIVING.

STATISTICS OF URBAN WAGE EARNERS.

The labor of tabulating the statistics of this Part of the report has been much heavier this year than in any previous year, owing in some degree to the increased number of returns which had to be handled, but chiefly because of the much larger variety of deductions worked out from the general tables. In the view of some statisticians a simple presentation of the figures compiled from returns is all that ought to be undertaken by a Bureau like ours, as within this limit they are treading upon safe ground. It is certainly consistent with ease and expedition; but where nothing else is attempted than a bald compilation of returns, the most valuable and instructive lessons of the statistics are likely to be lost. The labor and the effort of generalisation are too great to be undertaken excepting by specialists, and even in the case of men of this class such data as total quantities afford are not available in the form in which detailed tables are usually prepared. Work of this kind can only be carried on efficiently in the statistical office, where all the requisite data for investigation are accessible for reference, and where the records of successive years are kept for comparative uses. A Bureau of labor statistics should not exist merely for the benefit of economic students. Its chief value is for the working classes and their employers, and in their interests it is considered that a careful analysis of the tables ought to be made and the most important deductions worked out. There is a mine of useful information in the tables when analysed in this way, and it is confidently hoped that the time and study bestowed upon them will serve some useful purpose in the investigation of labor problems.

Besides the presentation of statistics of work and wages, this Part contains a summary of the evidence of the Labor Commission presented to the Dominion Parliament at its last session, so far as relates to the province of Ontario. This summary has been prepared by subjects, and presents in moderate compass all the leading facts and opinions of a volume of 1,200 pages.

THE COLLECTION OF WAGE STATISTICS.—The method of collecting returns from employés for weekly and yearly statistics has been similar to that adopted for the preceding four years. Local collectors were appointed in the various towns and cities selected, and full instructions as to their duties were mailed them. In some cases it was found necessary from time to time to further communicate information explanatory to difficulties encountered, and upon the whole a fair collection has been obtained. The information from employers has, with the exception of the city of Toronto, been wholly obtained by mail, and the response has been far in excess of any previous year. The chief cities and towns are not so well returned as heretofore under a personal canvass, but more territory has been covered and the occupations are more varied.

Following are the circulars and schedules used in the collection :

INSTRUCTIONS TO THE COLLECTORS OF LABOR STATISTICS.

Sir,—For the collection of statistics of earnings and cost of living of the working classes two distinct Forms or Schedules are supplied, and as far as possible the information called for by each should be obtained from every workingman who gives returns.

Schedule A is framed for a return of weekly wage statistics, the period taken being a *full* week in 1888, ending with date entered at the head of the Schedule. Employers will be solicited to make a similar return and the two classes will be tabulated separately and collectively.

The return of time employed, wages earned, and cost of living for the year period is called for in Schedule B, and should be for the year ending as obtainable but not later than December 31, 1888. The data for the most valuable class of Labor statistics are sought by this Schedule, and while some of the heads of enquiry are apparently inquisitorial, their usefulness in the study of the Labor problem cannot admit of doubt.

An effort should be made to PROCURE RETURNS OF FIVE TO TEN PERSONS IN EVERY OCCUPATION or sub-occupation, if there are so many employed in it in your town. The mistake of getting a mass of returns for three or four occupations and a few or none from others should be avoided. *The important point is to get a sufficient number from which to compute fair averages for each branch of industry in your town.*

You will doubtless frequently meet with cases where it is difficult to obtain from the workingmen all the particulars asked for in the schedules, and in such cases a little judicious help or suggestion may be necessary. The experience of persons employed in this service is that, even with workingmen who keep no record of time, wages, or cost of living, a few well-directed questions by the Collector will enable the workingman to give figures that are as nearly as possible accurate.

If the workingman is unable for any cause to supply the information when called upon, his address should be taken, one copy of the Schedule left with him, and a call made at his residence after working hours. In some cases it may be expedient to do this so as not to interrupt his operations ; and in order that no cause of offence may be given to the employers of labor in factories, or elsewhere, it will be prudent to CONSULT THEM AND OBTAIN THEIR ASSENT before commencing a canvass of the employès.

I need not urge upon you the great importance of accuracy in gathering these statistics. The economic value of the information depends wholly upon its accuracy, and, in the interest alike of employers and employès, it is desirable to ascertain the truth with respect to the condition of the wage-earners of the country.

You are requested to make a daily return to the Bureau of the Schedules filled up, so that your work may be examined as it proceeds and attention called to defects or inaccuracies in it, if any should appear. The envelopes enclosed with the parcel of Schedules may be used in mailing these returns. They are postage free, if not sealed.

It is distinctly understood that the statistics called for in the Schedules will be treated as confidential by the Bureau. They will be published only in bulk form, and cannot be used for any purpose of assessment or taxation. Still, if any workingman objects to giving his name with the statistics of his Schedule, you may accept it on that condition by certifying that it is a genuine return.

In addition to collecting statistics of labor, wages and cost of living, you are requested to report on matters affecting the position of the working classes and the general relations of Capital and Labor in your town during the year ending December 31, 1888. The subjects of enquiry are enumerated on the card sent herewith, and I would suggest that you take notes of information while engaged in collecting statistics, in order that your report may be prepared with great care and with a strict regard to facts. Forms for making this portion of the report will be furnished you.

CIRCULAR TO WAGE-EARNERS.

In response to a resolution of the Ontario Trades Congress of 1883 this Bureau began the collection of statistics relating to labor, wages and cost of living. The statistics for that year were gathered from workers only, and mainly from such as were members of labor organizations. In 1884, 1885 and 1886 the information was procured from employers as well as workers, and the average rate of weekly wages was computed from both classes of returns, separately and collectively—the object being to eliminate errors due to possible exaggeration, and so ascertain the true average rate. In 1887 returns were procured from employés only, as owing to pressure of work in the Bureau a competent officer could not be spared to solicit this information from employers.

Schedule A, hereto attached, is framed for a return of weekly wage statistics in 1888, the period taken being any full week in the months of August, September or October. Employers are being solicited to make a similar return, and the two classes will be tabulated separately and collectively as in former years.

The return of time employed, wages earned and cost of living for the year period is called for in Schedule B. The data for the most valuable class of labor statistics are sought by this schedule, and while some of the heads of enquiry are apparently inquisitorial, their usefulness in the study of the labor problem cannot admit of doubt.

It is important that in every city and town in which these statistics are gathered the returns for weekly and yearly tables should be sufficiently numerous to supply trustworthy averages for each industry and occupation represented, and to this end the workingmen of the province are invited to give their co-operation by promptly filling up and returning the schedules to the local collectors. The value of the Report must necessarily, to a very large extent, depend on the information supplied to the Bureau. All such information, I may add, will be treated as confidential; the returns will be tabulated in bulk only, and they cannot be used for any other purpose. The object being to collect information as to the social and financial condition of the workingmen it is here unnecessary to detail the benefits to be derived therefrom by the wage-earners themselves, who know that without this data all movements for social improvement are but leaps in the dark.

SCHEDULE A.

LABOR STATISTICS FOR THE (TOWN OR CITY) OF..

FOR THE FULL WEEK ENDING ....1888.
Fill in blank of date with any full week in August, September or October.

1. Name in full..
2. Are you over or under 16 years?..
3. Occupation or Trade ....
4. Subdivision of occupation or trade..
5. Where or by whom employed..
6. Amount of wages for the *full* week, - - - - - - $........................
7. Number of hours employed in that week..

SANITARY CONDITIONS, ETC.

8. If a householder, are you owner or tenant?..
9. Are the sanitary conditions of the house satisfactory?.............................
10. In what respect, if at all, are they faulty?...
11. How many days were you unemployed during the year exclusive of legal holidays, from: (1) Sickness of self or family.......................... (2) Inability to obtain work ....(3) Other causes....................Total ....

NOTE.—Be careful to give sub-division, or particular line of work in occupation.

SCHEDULE B.

LABOR STATISTICS FOR THE (TOWN OR CITY) OF...............................FOR THE YEAR BEGINNING

...................................., 1887 AND ENDING......................................, 1888.
Fill in blanks of place and date.

1. Number dependent for support (not including self), - - ....
2. Number of dependents under 16 years of age (if any), - - ....
3. Average hours per week during the year when employed - ....
4. Days employed during the year, - - - - - - ....
5. Wages derived from occupation during the year, - - - $..................
6. Extra earnings (if any) received during the year, outside of regular employment, - - - - - - - - - - - $..................
7. Earnings (if any) of wife or minor children during the year, - $..................

COST OF LIVING FOR THE YEAR.

8. Cost of rent, - - - - - - - - - - $..................
9. Cost of fuel, - - - - - - - - - - $..................
10. Cost of clothing for family (or self if without dependents) - $..................
11. Cost of food for family, - - - - - - - - $..................
12. Cost of board and lodging (if not house-keeping) - - - $..................
13. Society dues and life insurance, - - - - - $..................
14. All other expenditure for support of self or family, - - $..................
15. Total cost of living for family (or self if without dependents) - $..................

NOTE.—The details under cost of living may be given in whole or part, according as the person making the return is able to classify them. Minute accuracy is not possible, unless accounts are kept, but a close approximation can doubtless be made. Item No. 15 is of the greatest importance, for without it the return is useless in making up the tables. Extra earnings should be the produce of labor only, whether of self or family.

Certified.

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Collector of Statistics.

CIRCULAR TO EMPLOYERS OF LABOR.

You are respectfully requested to make to this Bureau, upon the Schedule sent herewith, a return of the wages paid to all persons in your employ for any full week fairly representative of your occupation or industry in the last six months of the current year, *being careful to fill in blank for date of week.* Similar returns are being collected from employés themselves, and it is hoped that from the data procured from both parties an impartial report can be prepared.

It is important that the returns of wages should be sufficiently numerous to supply trustworthy averages for each industry and occupation represented. The value of the Report must necessarily, to a very large extent, depend on the information supplied to the Bureau. All such information, I may add, will be treated as confidential in so far as concerns individual employers; the returns will be tabulated in bulk only, and they cannot be used for any other purpose.

Your attention is directed to the instructions for filling up the Schedule. One of the most valuable results to be obtained, from a statistical point of view, is the relation of averages to the quantities from which they are computed, and for the purpose of this examination it is essential to get a return of earnings, age, sex, and hours employed for each worker separately. It is not necessary to give the name of any worker, but simply his or her occupation as in the Sample Sheet.

The returns to the Bureau, if enclosed in the envelope sent herewith, are postage free.

SAMPLE SHEET.

RETURN OF WEEKLY WAGES FOR THE WEEK ENDING SEPTEMBER 29TH, 1888.*

NAME OF COMPANY, FIRM OR EMPLOYER.	LINE OF OCCUPATION OR INDUSTRY.	PLACE OF BUSINESS.
Oswald, Jones & Co.	*Boots and Shoes.*	1989 *Yonge Street, Toronto.*

In this return it is essential to give for each worker, singly, the number of hours employed and the rate of wages earned for the week. In the first column (1) enter occupation or sub-occupation of the worker, following your own classification; in the second column (2) sex, distinguished by the letter "M" or "F"; in the third (3) age, whether Over or Under 16 years—"O" for the former and "U" for the latter; in the fourth (4) number of hours employed for the week; and in the fifth (5) amount of wages or earnings for the week.

1 Occupation or Sub-occupation of Workers.	2 Sex. (M. or F.)	3 Over or Under 16 yrs. (O. or U.)	4 No. of hours employ'd in the week.	5 Amount of wages or earnings for the week.	1 Occupation or Sub-occupation of Workers.	2 Sex. (M. or F.)	3 Over or Under 16 yrs. (O. or U.)	4 No. of hours employ'd in the week.	5 Amount of wages or earnings for the week.
1 Bottomer........	M	O	60	$9 00	13 Laster..........	M	O	57	$8 75
2 Bottomer........	M	O	60	9 50	14 Laster	M	O	57	9 00
3 Bottomer	M	O	61	9 75	15 Laster..........	M	O	57	8 75
4 Cutter	M	O	58	8 50	16 Machine worker.	F	O	58	5 00
5 Cutter	M	O	58	9 00	17 Machine worker.	M	O	56	10 00
6 Fitter.	F	O	59	3 50	18 Machine worker.	M	U	58	4 50
7 Fitter...........	F	U	59	3 25	19 Paster..........	F	O	54	3 50
8 Fitter...........	F	O	59	3 50	20 Paster	M	U	53	3 50
9 Finisher.........	M	O	61	10 00	21 Paster	F	U	52	2 00
10 Finisher...	M	O	57	10 50	22 Sole cutter......	M	O	57	8 00
11 Finisher.........	M	O	57	10 00	23 Sole cutter......	M	O	57	8 50
12 Finisher.........	M	O	57	9 00	24 Sole cutter......	M	O	57	8 00

TORONTO. P. O. Address. Certified, OSWALD, JONES & CO.

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*In filling out sheet, each company, firm or employer may select any fairly representative week for the occupation or industry in the last six months of 1888.

REPORTS FROM COLLECTORS.

RELATIONS OF WAGE-EARNERS TO EMPLOYERS AND EMPLOYMENT.—In addition to procuring statistics of time, wages, etc., the collectors appointed by the Bureau were requested to make enquiries into matters relating to pay-days, health and safety of workers, juvenile labor, condition of trade, labor organisations, literary advantages and other topics of a social nature. For this purpose the questions below were placed in the hands of each collector, and the replies are summarised in the pages following :

1. PAYMENT OF WAGES.—(1.) Is there a fixed pay-day for wages of workers? and what day? (2.) How many pay-days in each month? (3.) Is the full amount of worker's wages paid each pay-day? (4.) What proportion, if any, is reserved by the employer? and for what object is it reserved? (5.) Are wages as a rule paid in cash.

2. ACCIDENTS TO WORKERS.—(1.) Are any accidents reported for the year? (2.) How many? and what has been the nature of each? (3.) How many have resulted fatally? how many have resulted in permanent injury? and to what cause were they due in each case? (4.) Is machinery so protected as to prevent accidents, with reasonable care on the part of the workers?

3. HEALTH AND SAFETY OF WORKERS.—(1.) What is the general condition of the health of workers? and how in this respect do in-door and out-door workers compare? (2.) Has any epidemic or contagious disease broken out in the families of workers? and if so, what kind of disease, what were its consequences, and to what is its origin ascribed? (3.) Is there a proper ventilation of workshops or factories? (4.) Are wash-rooms and water-closets provided for the convenience of workers? and separate ones for each sex? Are they kept in a proper state of cleanliness? (5.) Is the water supply ample and of a good quality for drinking? (6.) Are adequate means of escape provided in case of an outbreak of fire? (7.) Are the doors of factories or shops locked or bolted during working hours? (8.) Are any numbers of children under 14 years of age of either sex, girls from 14 to 18 years, or women employed in factories or shops? If so, how generally are they employed in respect of each of the three classes? and to what cause or causes is their employment ascribed? Is it owing in any degree to the dissipation of fathers of families?

4. RUNNING TIME OF SHOPS AND FACTORIES.—(1.) Have factories or shops been idle for any part of the year? and if so, how long and for what cause? (2.) Have workers been idle for any cause except the closing of factories or shops, or (in the case of out-door trades) the state of the weather? Have they been able, as a rule to find steady employment? (3.) Is it the custom to keep factories, shops, etc., open the same number of hours for each day of the week? If any portion of Saturday is given to workers, how much? and are the full day's wages allowed?

5. SHORT HOURS OF LABOR.—(1.) In what trades (if any) have the hours of daily or weekly labor been shortened during the year? and to what extent have they been shortened per day or week? (2.) What have been the results to workmen—(*a*) as to reducing the number of persons out of employment; (*b*) as to increasing the number of days employed during the year; (*c*) as to conduct and character? (3.) State whether it is regarded as an advantage to the working classes to shorten the hours of daily labor and increase the number of days employed in the year, and the respects in which it is advantageous, or otherwise: Does it tend to ensure a livelihood for the family throughout the year and to promote economy of living, or does it in any degree tend to idle and dissipating habits: (4.) In what way do workers improve the opportunity afforded by the shorter hours of daily labor?

6. INDUSTRIAL STRIKES OR LOCK-OUTS.—(1.) Have any strikes or lock-outs occurred during the year? and if so, what trades have been affected by them? (2.) What was the cause in each case? and if settled, upon what terms and through what agency—arbitration, conciliation, or otherwise? (3.) How many workers were affected in each case? how long were they out of employment? and what amount of earnings was lost in consequence?

7. ORGANISED LABOR.—(1.) Is labor organised in your town? if so, how many organisations are there, how many members are enrolled in each, and what trades or occupations do they represent? (2.) Is female labor organised as well as male, and are there separate organisations? Give details as to number, membership and occupation? has the number increased or decreased during the year? (3.) What has been the effect (if any) of organisation on the rate of wages? (4.) What part (if any) has organised labor taken in strikes or lock-outs? (5.) How much has been expended by each organisation on strikes and lockouts?—(*a*) In your own town; (*b*) In all other places? (6.) How much has been expended for benevolent purposes?

8. READING-ROOMS AND LIBRARIES.—(1.) How many reading-rooms or libraries in your town? (2.) How long have they been established and how are they maintained? (3.) During what hours are they open, and to what extent are they patronised by the working classes?

9. SPECIAL SUBJECTS.—Report on any special subject of interest to the working classes in your town, in addition to the foregoing, and suggest any topics which you consider to be worthy of future enquiry.

1. PAYMENT OF WAGES.—Collectors report a regular pay-day, weekly, monthly or semi-monthly. There appears to be an increase in fortnightly or semi-monthly payments compared with previous years. Friday and Saturday are the days usually selected for short payments. The custom of holding a week's wages back is growing, and in some

instances the first month's wages is retained, while in the case of the railway corporations, and some of the large manufacturing establishments making monthly payments, from ten to twenty days' pay is withheld, the wage bill being made up to the end of the month preceding the pay-day. A Gananoque firm retains 5 per cent. of its employés' wages until August, but for what purpose it is not stated. In the case of piece-workers the labor of the last day or two goes over into the next payment, to facilitate the making up of accounts. The cash system prevails, and "orders" are almost unknown. The Chatham collector cites an instance of payment by store orders, and the Stratford collector hints at the practice under certain conditions, but the scheme of "truck" and orders is a thing of the past with Ontario artisans generally.

Almonte collector: The first month's wages are reserved, but paid when the employé leaves the mill. This is done to secure notice before leaving.

Bowmanville correspondent: From the first of the month until pay-day the men's wages are retained, to give the office-hands a chance to keep up to their work.

Brantford collector: Friday and Saturday are the days upon which wages are generally paid. There are two pay-days each month—in every alternate week. The Grand Trunk reserves eighteen days' and the Brush works six days' wages.

Brockville collector: Saturday is the general pay-day here. The larger firms pay every two weeks and the smaller ones weekly. Nothing is reserved out of their wages, unless in cases like that of the railway employés, where a certain amount is retained for insurance.

Carleton Place collector: Payments are usually made on the 15th of the month, the hands being paid up to the end of the month. The employers keep fifteen days in hand to compel the employés to give two weeks notice before leaving.

Chatham collector: In all industries but one the payment of wages is weekly, either on a Monday, Friday or Saturday night. One large establishment pays every two weeks, with Friday as pay-day. No money is reserved except in the case of apprentices in carriage shops who get a bonus at the end of each year of their apprenticeship of $25, $35 and $45. Wages are paid in cash almost invariably. I found in one or two cases of hard pressed employers that "orders" were given and refused by the party on whom they were drawn. I believe that in some of the small neighboring towns this system is still practised, but not to a very large extent.

Cobourg collector: One week's wages is retained at two establishments, and ten days' pay is kept over until next pay-day at another.

Cornwall collector: Wages are paid here every other week, Tuesdays, Wednesdays and Saturdays being pay days. Two weeks' pay is kept back by the employers. The reason, I think, is to restrain the employés from leaving without giving two weeks' notice.

Galt collector: Tuesday, Friday and Saturday are the most common pay-days. Payments are general every two weeks. From one to five days' wages are reserved, and this proves a check on hands leaving without giving some warning.

Gananoque collector: All firms here pay the full amount of wages each pay-day except one firm, which reserves 5 per cent. until August.

Guelph collector: As a rule the factories pay twice a month. In some cases a week's wages is kept back.

Hamilton collector: The building trades have a fixed pay-day, Saturday, and so have the textile, tobacco and glass workers. The iron industry has also a fixed pay-day, but with some it is Saturday, with others Friday and in some cases Monday. As a rule sklled labor has fortnightly payments or two in each month, while unskilled labor generally receives weekly payments. The railroad men have but one pay-day a month. In the building trades one day's wage is kept back, and as a rule all piece-workers have one day's pay withheld—the last day's production. In the textile industry in some cases one day's and in others one week's pay is reserved.

Kingston collector: In most cases there are four pay-days per month—every Saturday—except in the locomotive works where the men are paid every two weeks, and in the K. & P. car shops where they are paid on the 20th of every month. In the locomotive works two weeks' wages are kept in hand, and in the K. & P. car shops they retain whatever a man may earn previous to the 20th of the month; that is, the employé receives no money on the first pay-day he is employed, but whatever is due him then is kept until he is discharged or leaves on his own account, and in either case he then receives every cent of his back pay. The object of reserving these earnings is that the worker will have to give two weeks' notice in the locomotive works and one month's notice in the car shops, and then it gives the employers time to look out for suitable hands.

London collector: As a general rule there are regular pay-days once, twice, and four times a month, but in the majority of cases weekly. Large corporations reserve from one to two weeks' pay for convenience in making up the books.

Oshawa collector: Saturday payments are general. In some cases two days and in other cases a week's pay is reserved for the purpose of balancing the piece-work accounts.

Perth collector: Weekly payments are the general rule here in all small shops, where they pay on Saturday and do not keep any pay back. The C. P. R. shops pay on the 20th of each month, and retain twenty days' pay to enable them to make up their pay sheets. They ask the men to give them two weeks' notice of intention to leave, but they discharge their men without giving any notice. An employé commencing on the 1st of the month will have to work seven weeks before receiving any pay. The knitting factory pays on the 5th of every month and retains five days' pay.

Peterborough collector: The large establishments pay their hands twice a month, on the 1st and on the 15th. The smaller shops pay as a rule on Saturday nights. The full amount of wages is paid each pay-day, except by a few establishments which keep a few days back so as to make the time more easily kept. When the men leave this money is paid over to them.

St. Catharines collector: The weekly system is generally observed, but three establishments pay fortnightly. The Whitman-Barnes Manufacturing Company retains all above a certain amount over the busy season, and when the men have no work pay them the stipulated sum until the accounts balance. This system ensures the company having skilled labor at its disposal at a moment's notice and compels provision for the idle season. No man, however, has ever been refused back pay upon request.

Stratford collector: Pay-days vary very much. In some of the works they pay monthly, but the majority pay weekly. Those who pay weekly pay either Friday or Saturday night. Some pay in full and others keep one week in hand, so as to give book and time-keepers an opportunity to make out pay-sheets, etc. Those who pay monthly keep back the pay that has accrued from the first of the month until pay-day. Wages are paid in cash as a rule. Those who receive goods do so at their own option or convenience.

Toronto collector: My enquiries lead to the conclusion that in all mechanical callings, and in those dependent on or directly connected with building trades, there are fixed pay-days—usually Friday or Saturday, but in a few instances Monday or Tuesday. In the building trades two pay-days per month is the general rule, while in the printing and some few other callings weekly payments prevail. The full amount due is not in all cases paid on pay-day. The proportion held back varies in amount, but it is generally a week's wages. Where money is held back by the employer it is as a protection against the employe leaving work without previous notice, although the same employer discharges his employés without a moment's warning when it suits his purpose. I have no reason to believe that wages are not in every instance paid in cash.

2. Accidents to Workers.—The greater number of the casualties reported by collectors are of a minor sort, although several fatal accidents are recorded. Wood-workers, as might be expected, were the greatest sufferers from the lesser accidents, the saw and the shaper heading the list as dangerous machines, while burns from molten iron have been no less frequent than usual. Injuries by falls from scaffoldings have been noted to a greater extent than ordinarily, while no mention is made of fatalities in the railway yards except in Toronto. The Perth collector writes that "machinery generally is not sufficiently protected to prevent accidents," and the Galt collector also states that "in a few cases machines are not well guarded," but all the other collectors express satisfaction with the manner in which machinery is protected with a view to preventing accidents, some attributing the improvement to the operations of the Ontario Factories' Act. Nearly every accident reported is said to have been the result of carelessness on the part of the injured person.

Almonte collector: Two accidents to workers occurred during the year, resulting in one case in the loss of an arm, and in the other of a broken arm. Machinery is sufficiently protected, but carefulness on the part of the worker is still required.

Bowmanville collector: Two accidents have occurred with planer and rip saw, but neither have resulted in permanent injury. Over confidence on the part of the workmen was the cause The machinery is protected as well as any I have seen.

Brantford collector: Two accidents are reported through carelessness and in both cases the hand was badly injured, resulting in permanent injury. Machinery is adequately protected.

Brockville collector: No accidents of any importance are reported for the year, and the four trifling ones that did happen were chiefly due to the carelessness of the victims. Two cases of burning by molten iron and two cases of crushed hands constitute the list. Machinery here is well protected, and reasonable care on the part of workers will ensure freedom from accidents.

Carleton Place collector: Machinery is well protected, and with care on the part of the operative accidents can be avoided.

Chatham collector: A young man had the ends of his fingers smashed and permanently injured by a piece of ship-plank in a saw-mill. Another lost his hand by a wrench slipping. A third lost the ends of three fingers in a cutting machine. All were accidental. Nearly all the accidents I have heard of occurred in saw mills or wood-working establishments; casualties seldom occur in flouring mills or machine shops. Fatal accidents have occurred in saw mills in this vicinity.

Cobourg collector: There have been a number of accidents, but chiefly of a minor sort.

Cornwall collector: A number of accidents occurred during the year. One resulted in instant death and was caused by the falling of an elevator. The elevator had not been running right for some time previous to this fall, as another accident had occurred with it a short time before, resulting in permanent injury. Other casualties have resulted from cleaning machinery while in motion. As a rule machinery is pretty well protected.

Galt collector: One worker had his leg fractured by a fall from a slim scaffold. Another lost three fingers by a trip hammer coming down on them. He forgot for the moment where he was, and resting his hand on the block struck the spring with his leg while passing, which brought the hammer down upon his hand. Machinery generally is protected so as to prevent accidents with reasonable care on the part of workers, although in a few cases it is not very well guarded.

Gananoque collector: I can learn of but two serious accidents occurring in connection with industrial pursuits. One was a broken leg and the other a foot so badly crushed by an elevator as to render amputation necessary. Machinery is sufficiently protected.

Guelph collector: There have been one or two minor accidents, such as cut fingers by shapers, saws, etc., and one or two slight burns caused by molten metal, but none of serious consequence. All have been due to carelessness on the part of the operatives. The machinery in this city is as carefully protected as is consistent with the due performance of the work expected of it, and with reasonable care being observed by those working it little danger is apprehended.

Hamilton collector: Nine accidents are reported for the year. One man (the contractor) fell from a weak scaffolding and struck a picket fence, injuring his head. He sustained very severe injuries; in fact it is doubtful whether or not he regains his reason. His journeymen had warned him of the dangerous condition of his scaffold. A worker in a furniture factory lost two months' time through an accident with a shaper. The other accidents are not of a serious character. Machinery is fairly protected. A decided improvement is reported in this respect, which is accredited in many cases to the operations of the Factories' Act.

Kingston collector: With the exception of the case of a boilermaker who had his hand painfully bruised, all accidents were of a trivial sort. There has been a good deal of complaint on the part of the workers in one cotton mill, so far as the protection of machinery is concerned, but as there has not been an accident in the past year I presume there is not much ground for it. On the other hand, the workers in the locomotive works speak highly of their employers in this matter, as since the new firm has taken the works it has made great improvements in connection with protecting the machinery.

London collector: I have learned of the following accidents: from circular saws, two; shapers, three; burns from molten iron, three; caught in shafts, two; boring machine, one; falls from buildings, seven. None resulted fatally or in permanent injury. Machinery as a rule is well protected. The accidents for the year have been few, taking into consideration the fact of so many boys and incompetent persons having charge of machinery.

Oshawa collector: Eight accidents have occurred to workers, viz.: two burns while casting in malleable iron works, one loss of finger by saw in a shingle mill, one leg broken by breaking of defective scantling in the piano works, one killed by the springing of a plank in a cabinet factory, and three killed by the explosion of the boiler of a traction engine. Machinery is fairly protected.

Perth collector: Twelve accidents have occurred during the year, all of which were caused by wood-working machinery, and five of which resulted in permanent injury. They were nearly all caused by negligence on the part of the employé. Machinery generally is not sufficiently protected to prevent accidents.

Peterborough collector: There were no fatal accidents. Two men were injured by saws and each lost two fingers, and a third man lost three fingers in a cog-wheel. From all I can see and find out, machinery is as well protected as possible. The accidents occur mostly through carelessness of the workers.

Stratford collector: There have been a few accidents of a minor nature, chiefly from wood-working machinery. Machinery is well protected, and with care on the part of the worker accidents need not occur.

St. Catharines collector: Machinery is not yet properly protected, but there has been considerable improvement of late.

Toronto collector: I have not kept a record of the accidents reported through the press, but many of those which occurred resulted from carelessness on the part of the injured. Where death resulted the accidents in most cases occurred in the yards or on the tracks of the several railways within the city. As a result, I think, of the existence and operation of the Ontario Factories' Act, machinery is much better protected than in years gone by within the corporation of Toronto.

3. HEALTH AND SAFETY OF WORKERS.—There is a consensus of opinion among collectors that the general condition of the health of workers is good. Those engaged in outside occupations have better health as a rule, although some correspondents state that there is no noticeable difference. No epidemic or contagious disease is reported among the families of artisans as distinct from other classes of the community. While an improvement is observed in the ventilation of shops and factories, there is much room for a further bettering in this respect, especially in the blacksmithing departments, in cotton mills, and in some of the small tailor shops. A case is reported where in sheer desperation a girl in a cotton mill broke a window in order to get fresh air. Matters are also growing better in the way of separate wash-rooms and closets for the sexes, but more cleanliness and greater privacy are still desirable at certain points. Bad water and poor sewage are complained of by Brantford and Chatham collectors, several cases of diphtheria and fever being attributed to these causes. In Oshawa some workers have to be content with surface-water for drinking purposes. On the other hand, the drinking-water is praised in several cities and towns the London collector lauding the water of the Forest City as "the best in the world." A general improvement is reported regarding means of escape in case of fire, although well constructed fire-escapes are few. Very few establishments keep the doors locked during the working hours. In Galt the gates of the yard of a large establishment are bolted, but the doors of the department leading into the yard are not fastened. Several collectors state that children under fourteen years of age are still employed, but

it is also said that the operations of the Factories' Act have tended greatly to the reduction of this evil. A large number of girls and women are engaged in the various callings open to the sex, but new fields are being invaded by female labor, and girls are now found at work in a tinsmithing establishment at London. While some admit that in a few cases the dissipation of parents is the cause of many girls seeking employment, nearly all the collectors ascribe the cause to the struggle for the necessaries of life, and a desire to aid the parent in the family support, which is frequently made necessary by low wages and a scarcity of work.

Almonte collector: The general condition of health is favorable, and there is little, if any, difference between inside and outside workers. Wash rooms and closets for both sexes are provided for and properly attended to. Girls and women are employed to assist in the support of their families.

Bowmanville collector: In my opinion out-door workers enjoy better health than those employed in-doors. There are no wash-rooms, but fairly clean closets. The only means of escape are the entrance doors.

Brantford collector: The general health of workers is good. Out-door workers have better health than in-door workers. There have been three or four cases of typhoid fever and two cases of diphtheria, causing two deaths, the results of bad water and poor sewage. There are no wash-rooms, but separate closets are provided for the sexes, although as a rule they are not kept in a proper state of cleanliness. Girls and women are employed in the cotton factories and in the biscuit works. In the one case they work the same as men, weaving and spinning, and in the biscuit works they are engaged in packing and at other light employment. In some cases it is owing to dissipation of fathers, but in others the father's earnings are not sufficient to keep the family.

Brockville collector: Outside of the James Hall glove works and the printing offices little or no female labor is used, excepting in the trades ordinarily adopted by females such as tailoring and dressmaking.

Carleton Place collector: The general health of workers during the year was very good with both classes. Ventilation is good in the shops and upstairs in the factories, but the lower flats of the factories should have more ventilation. No wash-rooms are provided, but there are water-closets for both sexes. The doors are unlocked during work hours. Some children under fourteen are working, and a good many between fourteen and eighteen years of age, as well as a few women.

Chatham collector: While the general state of health of workers has been good, and is perhaps equal to other classes of the community, and while there are no very urgent complaints made against employers, the sanitary condition of the town is anything but satisfactory. Diphtheria and typhoid fever have been prevalent, the former in most cases being attributable to poor ventilation in old dwelling houses with low ceilings, and kitchen garbage thrown out upon the ground undergoing decomposition for want of drains, etc. Fully three-fourths of the well water is condemned by the public and the board of health. Regarding ventilation, some workers have complained of the smoke in the blacksmithing departments of certain industries which they say could be improved by proper ventilators being put in, and medical men say that this coal smoke is undoubtedly injurious to both the eyes and lungs. From more than one source very severe complaint is made in regard to tailoring establishments. The shops as a rule are poorly ventilated, and there is no escape for charcoal gas emitted from the ironing presses. It is hard to define the comparative health of in-door and out-door workers. As a rule the latter do not work out-side all the year round, and sometimes are not prepared for the stress of outside exposure.

Cobourg collector: The general health of workers is good. No children under fourteen years of age are employed here.

Cornwall collector: The general health of the workers is good. In-door occupations compare very favorably with out-door occupations. The ventilation in workshops and factories is moderately satisfactory. Water-closets are provided for each sex and are kept as clean as can be expected. In my opinion there are not adequate means of escape in the factories in case of fire. I believe there are children under fourteen years of age employed in factories, but I have no positive proof of the fact. There are a large number of girls from fourteen to eighteen years of age and a great many women employed in the factories. Inadequate wages to the heads of families is the chief cause of their employment.

Galt collector: The health of artisans generally is good. Out-door workers have the best of it. Only a few establishments have wash-rooms, but there are water-closets for all and separate ones where required. The water supply is plentiful and generally of the best quality. The means of escape are good in both factories and workshops. In the larger establishments the gates are often locked, and there is only one way of getting into or out from the yard, generally past the time-keeper's office, but the doors of the different departments open into the yard and none are locked. A good many girls between fourteen and eighteen years of age are employed, but the greater number of the female workers are over eighteen. Girls are forced to work chiefly on account of the fathers' wages being insufficient to keep the families, but I think there are a few cases where the intemperance of the father makes it a necessity for the children to go out to work.

Gananoque collector: There is good ventilation generally except at the rivet works. As most of our factories are near the river the *excreta* go into the water and is carried off.

Guelph collector: The general health of factory workers has been good. There are no wash-rooms. Separate closets are provided for the different sexes, but they are not always kept in proper order. The water supply is very good. There have been complaints of boys under age in some of the factories, some of the sub-contractors employing them to swell their profits. With regard to females, they are employed by manufacturers for the same reason. Where these seek employment it is generally for the purpose of adding to the family support and not because of the dissipation of parents.

Hamilton collector: As a rule wash-rooms and closets are provided and separate ones for each sex. A few exceptions are reported; particularly in small sweat tailor shops, and in the home of the employer, where he generally devotes one room for the workshop no other closet or wash-room is provided than that in connection with his residence; and in such shops both male and female labor is employed. Ventilation is reported very bad in some of these places. With one or two exceptions there is no special provision made for fire escape. In fact the only ones reported are in Messrs. Tuckett & Sons' tobacco establishment and at the Mary street cotton mills. In some cases the doors of workshops are locked during work hours. The number of children working in factories is reported as less than formerly, owing to factory inspection. Many women work in the factories and shops through widowhood, and in other cases dissipation of the husband or father is given as the cause; in the case of the younger operatives many are compelled to assist their parents, who are unable to provide for the entire family through lack of steady employment.

Kingston collector: On the whole the health of workers is very good. The ventilation is generally good except in the cotton mill, where a few weeks ago a girl, at the risk of discharge, purposely broke a window to get a breath of fresh air. There are wash-rooms and separate closets and a plentiful supply of good water. There is no fire escape at the cotton mill, but they have a first-class fire brigade formed of the employés, and a number of patent fire extinguishers. A number of children and young girls and women were employed in the cotton mill during 1888; and from what I have seen I think they are there to gain the necessaries of life, although not on account of the dissipation of parents.

London collector: The general condition of the health of workers is favorable. We have been singularly free from epidemics or contagious diseases. Separate wash-rooms and closets are provided in all large establishments where both sexes are employed, and privacy is ensured in the smaller places. Our water is the best in the world. There are some fire escapes, but in most instances a great improvement could be made. I have found no children under fourteen years of age, but there are plenty of girls and women doing the work of men, in one factory more especially, where they are employed at tinsmithing. The cause of the employment of girls and young women is due on the part of some to a desire to assist their parents, but with others it is that they may live. And while in a few cases the cause may be ascribed to the dissipation of parents, in the great majority it is to be ascribed to small wages and lack of employment of the father, which compels the children to work. Thirty years ago the father was the bread-winner of the family; to-day the children are the bread-winners.

Oshawa collector: In-door workers will not compare with out-door workers in respect of health. Ventilation is not good in the malleable iron works, nor yet in many of the tailoring establishments where the shops are overcrowded. The tailor shops are very defective in respect to wash-rooms and water-closets, both as regards separate compartments and cleanliness. These have hitherto not been under the control of the Ontario Factories' Act, but have been severely commented upon by the factory inspector. Much of the water used for drinking purposes is surface water.

Perth collector: The health of workers is good. Workshops and factories, however, are not properly ventilated, and adequate escape in case of fire is not provided. There is an ample supply of good water. There are no children employed in factories here.

Peterborough collector: The general health of both inside and outside workers is good. Wash-rooms and closets are provided for both sexes, and they are kept in a good sanitary condition. There are no children under fourteen years of age employed in our factories.

St. Catharines collector: The health of workers is fair. There is not yet a proper ventilation of shops, but matters are improving in this direction. There is hardly any child labor employed. Outside the tailor and dressmaking shops, the canning, hair-cloth and batting factories are the only establishments employing female labor. Scarcity of work and low wages for the father have more to do with female wage earning than whisky.

Stratford collector: The health of workers is good, but outdoor workers are the more healthy. I have found no fire escapes in shops, but there seems to be ample means of escape by doors. Very few children are employed here under fourteen years of age, and those only in the woollen mills.

Toronto collector: While there is much room for improvement generally in the sanitary conditions of Toronto, yet the health of those of its people who work in factories and other places of production has been remarkably good during the past year. No epidemic or contagious disease has been reported. In the main, the ventilation of workshops and factories in Toronto is fairly good. The number of washrooms provided in these places for the use of employés is steadily increasing, and the same remark applies to the providing of separate water-closet conveniences in places where both sexes are engaged. The closets are generally kept clean. The water supply is ample and of good quality. In most instances the means of escape in case of fire are fairly good. I have no knowledge of any place where the doors are kept locked during working hours, although in some cases the doors are locked for a time after 7 a.m. and 1 p.m. I have no knowledge of children under fourteen years of age being employed in workshops or factories, although, doubtless, there are a few here and there. As to the causes of so many girls and women seeking employment, the reasons set forth in my report of last year still hold good.

4. RUNNING TIME OF SHOPS AND FACTORIES.—The majority of collectors report a general dulness, as exhibited by establishments running on short time, or else closing for weeks or months until surplus stock could be worked off. The Toronto collector states that in a few instances skilled mechanics were worked in divisions week about during the dull period, the aim evidently being to retain the services of valuable workmen during a slack time. Outside workers also found employment scarce in the towns and smaller cities, especially towards the close of the season. Fires in Chatham and Oshawa threw a number of hands out of employment, and a number of workers of both sexes were idle in Guelph owing to the failure of a carriage-top company. Outside of Toronto

the Saturday half-holiday is making but slow growth. In many places the employés have to make up the time by working extra hours during the week or lose the half-day's pay. In some establishments the hands quit half an hour or an hour earlier than usual, and while as a rule the employers allow the time, in several instances the hour or half-hour has to be made up by the worker during the week.

Almonte collector: One factory closed for six weeks for improvements and enlarging, and a second closed entirely, owing to a failure of the owner.

Bowmanville collector: The cabinet factory has been idle about two months owing to stock-taking and the depression of trade, while the organ factory has been idle for a month from similar causes. In the summer season the factories close at noon, and in the winter season at five o'clock, and the men are docked for the time.

Brantford collector: Buck's stove works were closed two months, A. Harris, Son & Co.'s works two months, and the cotton factory five months. Other smaller factories have also shut up for various periods, ranging from two to four weeks. Cause: too much stock on hand or bad trade. It has been a very poor year for the workingman. One hour is generally given the men on Saturday and full wages allowed.

Brockville collector: None of the factories were shut down except for necessary repairs during the year.

Carleton Place collector: Some of the workers have been discharged in the factory and workshops on account of slack times. The factory worked full time, but the workshop was run on short time for a long period. The factory closes on Saturday at one o'clock in summer and four in winter, and runs extra hours on the other days to make up the time.

Chatham collector: In two cases factories were burned down and rebuilt within six weeks, and during that period much time was lost. In some dull trades one-half of the men are employed for about four months of the year, and for the balance of the year full hands and steady work. Carriage factories, foundry and machine works and flour mills have been more steady than other industries. I have found more complaint in the tailoring trade than in former years. The building trade is unusually quiet, which perhaps explains the cause of lost time and short hours in all the planing mills. The coopering trade is reported as better than in the previous year. Those who get in full time while factories are idle are extremely rare, and while all the workers procure a little "outside" employment, it occupies a very small portion of the total lost time as a rule, and the price paid for work outside of the regular occupation is generally very low. In most cases a half-hour or hour is given the worker on Saturday, and full wages allowed. Several railway men get one and a half hours off on Saturday, and no reduction of wages.

Cobourg collector: The woollen mills were idle twelve days, and the matting factory was shut down for three weeks on account of the dam breaking. In most instances workers are employed shorter time on Saturdays, but are paid only for the time they work.

Cornwall collector: The Canada Cotton company was idle about two months, owing to a strike against a reduction of wages. The Stormont Cotton company was also idle about two months One month was owing to a strike against a reduction of wages, and the remainder of the time was owing to a breakage in the Cornwall canal. Outside workers have not been able to find steady employment. It is customary for the factories to run 11 hours for five days and 5 or 5½ hours on Saturday, and the hands are paid for 60 hours. Other industries work 10 hours per day.

Galt collector: One factory was shut down for a couple of months during the summer, and two others closed up altogether near the end of the year from lack of orders. A good many, both indoor and outdoor workers, have been idle for a part of the time for want of work, and quite a number have left the town. This year nearly all the factories have closed at noon on Saturday in summer and at half past three in winter. No part of the time is allowed the workers. They make up part of the time during the week and lose on an average two hours a week, ten hours being considered a day's work.

Gananoque collector: Half an hour is usually allowed on Saturday with full pay.

Guelph collector: There has been more loss of time and money to the operatives of this city, both indoor and outdoor workers, during the past year than in the year previous. Most of the factories have been shut down for a while or running short time, with the exception of the organ and piano factory, which has been and is now very busy. Large additions have been made. The failure of the carriage-top company threw a large number of hands, both male and female, out of employment; and there was a falling off in the building trades which seriously affected stone masons, carpenters and plasterers, so that they had to seek work elsewhere and have not enjoyed steady employment. The working hours for the summer months are ten hours a day and nine on Saturday when running full time. Some factories quit work at noon on Saturdays, and make up the full time of fifty-nine hours by shortening the dinner hour and working overtime in the evening to bring up the aggregate of fifty-nine hours for the week.

Hamilton collector: The running time of factories has been fairly steady. About two months' time was lost in midsummer in the textile industry. In the tobacco business considerable lost time is reported, owing to the dulness of trade. The iron industry is reported as being very unsteady, and considerable lost time is reported. The outdoor trades lost about one month of reasonably fair weather by a lock-out forced upon them by their employers in the spring, and the building trades were slack nearly all the season, rendering steady employment impossible. The textile workers and the men in the G. T. R. shops have Saturday afternoon, but they make up the time through the week. The shoe trade, carpenters, tobacco trade, stonecutters, and a few others cease work at twelve o'clock on Saturday, but receive no pay for time lost. Those employed in warehouses, etc., have Saturday afternoons from June 1st to September 30th, and receive full pay.

Kingston collector: The K. and P. car shops and the locomotive works have reduced the number of their hands. In the majority of cases the same hours are worked every day. The hands working in the cotton mills work eleven hours per day except on Saturdays, when they work five hours, making sixty hours in a full week. In the locomotive works they work ten hours the first five days of the week and five on Saturday, making fifty-five hours in a full week, but their wages now amount to about the same as when they worked nine hours on Saturday.

London collector: While the factories or shops have not been shut down (with the exception of agricultural and car shops), they have been running with a reduced staff of men. This has been the dullest year ever experienced. A large number of men, after remaining idle for a long time, were compelled to seek work elsewhere, and while in some classes of trade certain men found steady employment, with others it was the reverse. In most of the factories the same hours are worked every day. A few have an hour shorter on Saturday, while one or two have half a day made up during the week. In some cases the employer pays the full week's wages, in others the employé loses the hour's time.

Oshawa collector: A number of factories have been idle for a part of the year, both from dulness of trade and lack of capital. Coulthard & Scott's agricultural implement factory was destroyed and rebuilt, causing considerable loss of time. One hour is given to workers on Saturday and full time allowed.

Perth collector: The C. P. R. shops here are run very irregularly. Sometimes they work ten hours per day, sometimes nine and sometimes eight hours. Their full capacity is 200 hands, but they have often reduced their staff to 35. During the summer there was considerable over-time worked at these shops, and the men were compelled to work fourteen hours without being given time to go home for supper.

Peterborough collector: Workers, as a rule, lost no time except while the factories were closed for repairs (usually for about two weeks), or when the weather was unsuitable for outside workers. Outside workers found it hard to obtain employment in the latter part of the season. As a rule shops and factories work the same number of hours in the week except Saturday, when they quit at 5 p.m., but they make up for it during the week by taking only half an hour at noon.

St. Catharines collector: The hours on Saturday are generally shortened, with usual pay.

Stratford collector: One shop closed for about two months, having an overplus of made-up stock. With one or two exceptions, where they have half a holiday on Saturday the workers have to lose the time.

Toronto collector: Factories and workshops as a rule were at no time idle during the year, although many worked with a reduction of the regular number of hands. In some instances where employers recognised the value of the work as well as the mechanical skill of their staff, when work became slack "laid off" a quota one week and the following week the idle ones replaced those who worked the week previously, and thus the divisions worked week about until business improved. As is usual each year, almost all factories closed down on an average of three weeks for repairs and general cleaning up. Shops and factories, whether being worked fifty-four or sixty hours, in most instances arrange to have the working hours shorter on Saturday than on any other day of the week. The system of a Saturday half holiday is each year extending in Toronto. In such cases the time worked only is paid for.

5. SHORT HOURS OF LABOR.—In a number of towns and cities working time has been shortened in different trades, varying from half an hour per week in a Cornwall woollen mill to an hour a day in the case of the bricklayers and masons of Peterborough. In a few instances it is claimed that shorter hours of labor have provided work for those out of employment, but other collectors aver that the year has been too dull to admit of a fair comparison on this point. A number of collectors report favorably (and none unfavorably) regarding the general conduct of employés working shorter time, and the majority are of opinion that shorter hours and more working days are preferable to full time each day worked with periods of closing down, as the wages come in more regularly, making it easier to practice economy and keep the family expenses from getting ahead of the earnings. Several labor organisations in Hamilton report favorably as to the benefits of shorter time for workers. The Saturday half holiday is much appreciated by those who have been given it, and it is generally used to advantage.

Almonte collector: The working hours in the woollen manufactory have been shortened one-quarter per day during the winter season, and it has had no apparent bad effect on conduct or habits.

Bowmanville collector: In all branches they have been shortened to average about nine hours per day, but so far as I can see it has not affected the idle men at all. If they had been working full time the shops would have been closed longer.

Carleton Place collector: Some of the trades worked short time during the year, at one time forty-eight hours, at another fifty-four, and again the full time of sixty hours. The reduction of hours made the employés much more careful to keep their jobs. Shorter hours increase the working days in the year, which means more regular pay for those working.

Cornwall collector: The hours have been shortened by the Canada Cotton company's mill only—from sixty and a-half hours to sixty hours. The workers of this town regard it as a benefit to shorten the hours of labor.

Galt collector: In all the iron trades the working time per week has been shortened by two hours. A few more persons were employed than otherwise would have been, and the half holiday has had no bad effect in regard to the conduct of workers.

Hamilton collector: Carpenters and joiners (house carpenters) have had their working time decreased from sixty to fifty-five hours per week. The general result has been good. Notwithstanding the dulness of the season very favorable results are reported both as to the time worked and the employment of the men in the trade, as well as the general conduct. Many favorable reports are received as to the advantages of the reduction of the hours of labor. The Cigarmakers' International Union, the Brotherhood of Carpenters and Joiners, the Iron Moulders' Union, the Amalgamated Society of Carpenters and Joiners, the Bricklayers' Union and other labor associations report in favor of shorter hours, each adducing good reason in support of the principle.

Kingston collector: The hours have been shortened at the locomotive works by the men quitting at 12 o'clock instead of at 5 on Saturdays. The men consider it advantageous, as in most cases they now spend Saturday afternoon at home in social enjoyment with their families.

London collector: In 1887 the carpenters and painters succeeded in reducing the hours of labor to nine, but since that time the state of trade has been such that no just comparison could be made. The amount of machinery now in use taking the place of men must of necessity cause greater production. To reduce the hours of labor means to limit the production, give more employment, reduce the number of idle men, and give more time for self culture. It would do more to cure the tramp nuisance than can any law passed to punish them. Then there would be force and reason to-day in the injunction, "If any man shall not work neither shall he eat."

Oshawa collector: Instead of increasing dissipation, shorter hours are regarded as acting quite the reverse.

Peterborough collector: The only trades in which the time has been shortened are the bricklayers and masons. They shortened the day's labor by one hour, making nine hours a day. The results have been gratifying to both the employers and the men. It has reduced the number of men out of employment, and has increased the number of days in the season. It is regarded as an advantage to shorten the hours of labor, as it is the only way to get work for the unemployed, for the supply of labor is greater than the demand. Workers here seem to improve their time. The majority of them own their own places, and they put in the extra hour improving around their own homes.

St. Catharines collector: Tinsmiths, plumbers and gas-fitters have had their hours lessened one hour per day. It is an advantage to the workers, and does not tend in any way to idleness or dissipating habits.

Stratford collector: Shorter hours in some trades might give a greater number of workers more employment; but as a rule, employers, when they are busy and have plenty of work, put on extra hands, and then let them go when the rush is over.

Toronto collector: The daily or weekly working hours of the past year have not been changed to any great extent from those prevailing during the previous year.

6. Industrial Strikes and Lock-outs.—Very few strikes or lock-outs occurred during the year, and the Oshawa collector voices the sentiments of others when he sententiously remarks: "We want no more strikes." The weavers in both cotton mills in Cornwall struck against a proposed reduction of wages, and the other employés were locked out pending a settlement, which was effected by mutual agreement in one case and by arbitration in the other. Some 1,300 persons were concerned in this strike and lock-out, and the loss in wages amounted to about $25,000. A bitter struggle, lasting for about four weeks, took place in Hamilton between the organised employers and the union men of the building trades. This lock-out is fully described by the Hamilton collector. A trifling difficulty occurred in Stratford between the laborers in the building trades and their employers, which was very soon settled. The wheel-makers of St. Catharines struck against a sudden reduction of wages, and remained on strike until the firm sold out. About $4,000 of earnings were lost in this strike. Three strikes occurred in Toronto—the bricklayers and masons' laborers, the painters and the plumbers. The plumbers' strike lasted fourteen weeks, but the other two were of shorter duration.

Cornwall collector: There was a strike of the weavers in both cotton mills in this town during the year 1888. The cause was resistance to a cut down in wages. The rest of the workers in the mills were locked out. The strike was finally settled—one mill by agreement and the other by arbitration. The terms of settlement were, that the help took a little lower wages than they had been receiving previous to the strike, and the management gave a little more than they had proposed to give. About 1,300 persons were affected by the strike. The hands of one mill were out about eight weeks, and those of the other about four weeks. About $25,000 was lost in wages owing to the strike.

Hamilton collector: An important lock-out occurred in the spring. In all branches of the building trades the employers formed a "Builders' Exchange." A difficulty occurred between a member of the exchange and the Builders Laborers' Union, which resulted in the exchange espousing the cause of the contractor. Members of unions in connection with the building trades were notified that unless they left the union by a specified time they would be discharged and non-union men secured. The result of this order was that nearly every mechanic engaged at bricklaying, mason work, stone-cutting, carpentering, tinsmithing, plastering, painting, lathing, laboring, etc., was discharged and locked out for nearly four weeks. Arbitration was proposed, but the employers would not listen to the proposition until the architects of the city stepped in, and the exchange, knowing the value of their friendship, at last consented. A meeting was called, but the employers refused to accept or consider any proposition unless the employés would renounce their respective unions, which the men unanimously refused to do. The meeting resulted in a failure, and a bitter fight ensued, lasting for about a month, until pressure was brought to bear upon the bosses by the men tendering and receiving contracts from the architects. The bricklayers had secured control of about 300,000 bricks to enable them to start. Finally, terms for the remainder of the season were entered into by both sides, and peace was restored. About 1,000 workers were directly affected. The loss sustained cannot be fully estimated, as the lock-out had an affect upon the entire season's trade. No other difficulty of any consequence occurred.

St. Catharines collector: The wheel-makers went on strike because of a reduction of wages without notification. There was no settlement. The men stayed out and the manager sold out. Thirty-five hands were concerned, and the strike lasted four months. The amount of earnings lost was about $4,000.

Stratford collector: A little trouble happened between the masters and laborers in the building trades early in the season, which resulted in a practical lock-out, but it was only of a few days' duration and did not amount to much.

Toronto collector: There were three strikes—by the bricklayers and masons' laborers, the journeymen painters and the plumbers. The bricklayers' laborers struck for an increase, but after being out some two weeks the difficulty was overcome through a compromise. The painters struck for the establishing of a minimum rate of 22½ cents per hour. Two hundred and fifty men went out the first morning, but that number decreased each day as the different employers conceded the demand, and within three weeks the men had won throughout. The average number of men idle during the full three weeks was about fifty, at a probable loss to them of $2 per day each. There is no means of ascertaining the loss to the employers during this strike. The plumbers struck for an increase of wages, and were idle fourteen weeks, at the end of which time they had practically accomplished the end aimed at. Ninety-seven men went on strike, and the loss to each one may be estimated at say $12 per week.

7. Organised Labor.—Of the twenty places reporting, only two, Almonte and Bowmanville, are without any labor organisation. In several of the other places there appears to be a decadence in the numbers and energy, but in Kingston, London, and Peterborough a marked increase has taken place in membership during the year. It seems very difficult to hold female labor organised. Hamilton and Toronto are the only cities in which that sex has separate organisations. Mayflower female assembly, of Kingston, succumbed during the year from inertia. In several instances, however, females have joined some of the mixed assemblies. All the collectors agree that the effect of organization upon wages has been good. Where it has not advanced the price of labor it has prevented a decrease, and helped to maintain a steadiness of rates during a dull season. Organised labor was on the defensive rather than the aggressive during 1888; it was more a question of meeting lock-outs than of striking. It is difficult to get the amount expended by labor organisations in strikes and lock-outs, and it is harder still to get the expenditure for benevolent purposes. It would appear, however, that the various organisations provide for their sick and needy members generally. During the year a considerable amount of money was sent to outside points to assist strikes and locked-out men.

Brantford collector: Labor is partly organised here. There are three organisations: the Bricklayers' Union, numbering 30; Moulders' Union, 50; and the Cigarmakers' Union, 19. About $100 was used for benevolent purposes.

Brockville collector: The labor organisation in Brockville is confined to the Iron Moulders' Union, numbering 37 members, and the brotherhoods of locomotive engineers, brakemen, firemen and conductors, embracing all the employés of the Grand Trunk and Canadian Pacific railways employed in these departments. There is no female labor organisation. The members of the Iron Moulders' Union, in addition to their regular dues of 40c. per month, paid about $4.50 each to assist other strikers. A severe drain was made on the railroad men to assist strikers in the United States, but the figures cannot be got at.

Carleton Place collector: The Knights of Labor are organised here, with 50 members in good standing, representing blacksmiths, carpenters, machinists, fitters and laborers.

Chatham collector: There is an assembly of the Knights of Labor here, with about 100 members in good standing, but the order has gradually lessened in power and activity during the past two years. The membership is composed principally of those employed in manufacturing concerns and a few of the building trades. No females are now members, as formerly. During the last year, wages have not been affected by the assembly, but during a lock-out two years ago its influence on the rate of wages was firm, and that standard has since been maintained. About $50 has been expended for benevolent purposes.

Cobourg collector: There is no labor organisation here, except the moulders', which is said to have a membership of about 12.

Cornwall collector: There were two local assemblies of Knights of Labor in this town in 1888. Organised labor had no part in either of the strikes or lock-outs which occurred during the year. About $200 has been expended by the Knights of Labor for benevolent purposes.

Galt collector: There is but one organisation, the Knights of Labor.

Gananoque Collector: There have been during the year past three assemblies of the Knights of Labor, although they are now amalgamated. There are not more than 150 members in good standing at present. We believe that the organisation of the laboring class has had a tendency to raise the wages of the laborer.

Guelph collector: Labor organisations are well represented here, and almost every occupation is comprised in the membership. There are two assemblies of K. of L., a moulders' union, stone masons and bricklayers' union, carpenters' and laborers' unions, and a trades and labor council of the whole. It is impossible to give the actual number of members, as they are all secret societies and will not give the number of members or any other information to outsiders, but they say that they are holding their own and are well satisfied with their organisation.

Hamilton collector: Labor is fairly organised, there being about twenty-four labor bodies, exclusive of the railroad organisations, with a total membership of about 3,000. Female labor is not well organised, except in the case of those engaged in the shoe trade, who have a separate organisation, and those in connection with the cigar trade, who are in a mixed assembly of the Knights of Labor attached to the National Trade District with a membership of about 100. Organised labor took part in the lock out in the building trades in the spring. Beneficial results have followed labor organisation. The bricklayers and masons expended about $2,500 in their lock-out. The amount expended for benevolent purposes is very large, but it is difficult to obtain, as many organisations refuse this information. Most of the organisations report having expended considerable of their funds in benevolence, and nearly all have a regular sick allowance, specified as one of the objects of their organisation.

Kingston collector: There are four assemblies in connection with the Knights of Labor, and two other organisations, the moulders and the amalgamated engineers. It is hard to get the exact membership, but I know that they are very strong and appear to be on the increase. Limestone Assembly is the oldest, and was formed in 1886. It is composed of all trades and callings not numerous enough to form an assembly of their own, and has about 300 members. Another assembly is formed of men in the foundries, locomotive works and other iron industries; a third embraces all in the building trades, and a fourth is composed of 'longshoremen, or those employed on the wharves and along the water front. A fifth assembly was formed by females employed in the woollen and cotton mills, tailor shops, etc., but they treated it with indifference, many did not pay their dues and the charter was returned to headquarters. Those females who desire to do so may join the Limestone Assembly. Labor organisation has had the effect of keeping wages up. In connection with Limestone Assembly a considerable amount is granted for sick benefits, etc.

London collector: There are eleven organisations here, composed of bricklayers, Amalgamated Carpenters, Brotherhood of Carpenters, painters, laborers, Amalgamated Engineers, moulders, two assemblies of the Knights of Labor, a typographical union and a tailors' union, with a total membership of 879. There has been a large increase in membership this year, notably in the Knights of Labor. Female labor is not organised. Labor organisation has maintained the rate of wages. No money was expended for strikes or lock-outs in this city, but $380 was sent to other places. About $400 was expended for benevolent purposes.

Oshawa collector: There are four labour organisations here, comprising all trades. The iron moulders' union alone has a membership of 135 The effect of organisation has been to increase wages and prevent reductions, notably so where the trades are thoroughly organised, as in the case of the moulders; $348.60 has been used for benevolent purposes, $250 of which was paid out by the iron moulders' union.

Perth collector: The only labor organisation here is the Knights of Labor. The assembly numbers 175, but the membership has fallen off lately owing to so many having to leave the town to seek employment. The order of K. of L. has been educational in its effect rather than merely a labor union. At the meetings members have discussions, essays, etc., on social and economical questions, and they are doing a good work in that direction. Organisation has not raised wages here, but it has prevented reductions. About $100 was paid out for benevolent purposes.

Peterborough collector: Labor is getting well organised in this town. There are two assemblies of the K. of L.—the tailors and a mixed assembly. Both have a membership of 75 members. Of the unions, the bricklayers and masons have 80 members, carpenters and joiners 70, moulders 35, printers 20, and shoemakers 40. Female labor is not organised. The effect of organised labor on the state of wages was good. The bricklayers and masons and their laborers were paid as much for nine hours' work as they got for ten hours last year.

St. Catharines collector: There are about fifteen labor organisations here with an average membership of 50. The only noticeable decrease in members is in the tailoring trade. Organisation has had a good effect. The only part taken by these bodies in strikes or lock-outs was of a defensive character, and about $300 was expended for that purpose. About $1,500 was expended for benevolent purposes.

Stratford collector: Labor is organised to the following extent in this city: Knights of Labor, about 100; stationary engineers, 13; locomotive engineers, 40; railway brakemen and firemen, 50.

Toronto collector: Labor is well organised in Toronto. The trades organised as unions are the typographical, printing pressmen, stone masons, stonecutters, bricklayers, carpenters, painters, plumbers and gas-fitters, bakers, harnessmakers, excavators, plasterers, plasterers' laborers, builders' laborers and iron moulders. These number in the aggregate some 4,500 members. In assemblies of the Knights of Labor are to be found leather workers, upholsterers, trunk makers, varnishers and polishers, piano makers, carriage builders and blacksmiths, railway employés, wood-workers, wood-working machinists, watch-case makers, steam-fitters, jewellers, 'longshoremen, boiler makers, engineers and machinists, sugar refiners, electroplaters, brass workers, journalists, tailors, brewers' employés, musicians, rattan workers and several other callings. There are two assemblies of females, one being composed exclusively of those engaged in the tailoring business. While the aggregate membership of this order is reported to have decreased somewhat in Toronto during the past year, yet it counts in the thousands. The Trades and Labor Council, composed of three members from each trade union and assemly of the K. of L., legislates and advises in the interests of all labor organisations, while the district assembly of the K. of L. supervises the work of the local assemblies within its jurisdiction. It is safe to assert that labor organisation is of a more permanent character in Toronto than in any other city of the Dominion, and its results are visible in many ways, notably in the matters of wages and short hours.

8. READING ROOMS AND LIBRARIES.—The Mechanics' Institutes or Y. M. C. A. provide a means of mental improvement in nearly every place reporting, and in Kingston, Perth and St. Catharines there are reading rooms under the auspices of Roman Catholic institutions. The railway men of Kingston and Stratford have successful reading rooms in connection with their workshops, and reading rooms specially conducted by other classes of workmen are reported in Cornwall, Hamilton and Kingston. A library has been established for the benefit of the carriage workers of Gananoque. Taking the reports of collectors as a whole, the working classes seem to give a good share of patronage to the public libraries and reading rooms, and there appears to be a strong desire among workers to have free reading rooms.

Almonte collector: There is one reading room here, established five years ago, but it is poorly patronised by the working classes.

Bowmanville collector: There is a library and reading room in connection with the Mechanics' Institute, which is well patronised by the working classes.

Brantford collector: The public library and the Y. M. C. A. reading room are very largely patronised by the workingmen.

Brockville collector: The Mechanics' Institute reading-room and library are largely patronised by the working classes.

Carleton Place collector: The public library and reading room here has about 100 members, many of whom are workingmen.

Chatham collector: We have the Mechanics' Institute library and reading room. Not more than 50 mechanics are members, and their attendance is rather limited. I should judge from personal observation that a free library supported by the corporation would be more inviting to the working clsses than under the present system.

Cobourg collector: There is a library in connection with the Mechanics' Institute.

Cornwall collector: There is a small library in the town connected with the Knights of Labor, and although there are not many volumes in it the members make good use of what books there are. The library is opened during meeting nights.

Gananoque collector: The Y. M. C. A. reading room was organised some years ago, and the carriage works library was formed in the summer.

Guelph collector: We have a free library, supported by the city. It was established in 1883, and has steadily grown in public favor.

Hamilton collector: The Y. M. C. A. has a reading room and library combined, and has been established for some years. District Assembly 61 established a library about eighteen months ago, which is maintained by the various local assemblies attached to the district, and it is open to members of the order only every evening for the reception and distribution of books, etc. A by-law for the establishment of a free library is to be submitted to the ratepayers at the next municipal election.

Kingston collector: I find that there are five libraries and four reading rooms in the city. The Knights of Labor library and reading room has been established about two months and is supported by the order. The Kingston and Pembroke Railway library was established in 1881, and is maintained by the members of the beneficial society, a levy of 50c. per annum being made for its maintenance. The reading rooms of the Y. M. C. A., the Catholic Literary Society and the Knights of Labor are well patronised by the young men of the city.

London collector: The Mechanics' Institute was established in 1841, and is maintained by members fees and a Government grant. The reading room was thrown open to the public for three years prior to September. 1888, having received a grant from the city council; but since that month it has been open to members only, the grant having been withdrawn. The Y. M. C. A. has been established for a number of years, and the reading room is open to the respectable public. It is visited by about 50 per cent. of the working classes.

Oshawa collector: The Mechanics' Institute library and reading room have been in operation for eighteen months, and are well patronised by the wage-workers.

Perth collector: There is a Mechanics' Institute with about 300 members. It was established eight years ago, and both library and reading room are well patronised by the working classes. There is also a night school in connection with it. The Catholic Mutual Benevolent Association also has a library, which is well patronised.

Peterborough collector: There are two reading rooms in town, under the auspices of the Y. M. C. A. and the Mechanics' Institute respectively.

St. Catharines collector: The free library and reading room is an institution open daily and largely patronised by the working classes. The De La Salle Institute reading room is open three evenings in the week, and is supported by ex-pupils of the separate schools.

Stratford collector: There are no more reading rooms than were reported last year, viz., the G. T. R. shops reading room and library.

Toronto collector: The city has a free library and reading room which has several branches throughout the city. They are well patronised by the working classes, large numbers of whom may be seen there during the dinner hour and every evening until the closing hour.

9. SPECIAL SUBJECTS.—The following are selected from among the general remarks and suggestions of collectors:

Bowmanville collector: I find the men dissatisfied with the monthly payment system, as they say they could handle their money better if paid every week, or even two weeks, as they have to run monthy accounts, and, of course, have to pay for it. Another cause of dissatisfaction is one man taking a contract for one branch of work and hiring his own labor, as in most cases he pays less wages than the men would get if working directly for the firm.

Carleton Place collector: The working men condemn any assistance to immigrants, for there are too many men out of work now, and if more come they will have to work for small pay or starve.

Chatham collector: The question of exempting from taxes dwellings to the extent of $600 is popular among workers with families, and they are uncompromisingly in favor of such a law being enacted. Wage-earners also complain of the injury suffered by them through the immigration of a poor class of Europeans.

Guelph collector: When a strike occurs of large dimensions, injuring trade, a commission should be appointed by the Government to settle the dispute after hearing evidence. If the commission is unable to settle, the Government should then enact a special law governing the case.

Hamilton collector: Many suggestions have been offered regarding the dust from emery wheels and the question of ventilating the rooms where these machines are used. Probably the most practical suggestion is the introduction of a small fan adjusted to the machine to draw all fine dust, etc., away from the operator, as the rapidity of the machine tends to keep the dust in motion, the heavier particles falling to the floor. Your collector has seen pearl button-makers at work, and in connection with their work a small fan is attached which is set in motion with the lathe, and the power required is very little. All the dust is drawn up a chute and into a receptacle provided for that purpose. If some of our inventive wage-earners would experiment in this matter some good result would be sure to follow.

London correspondent: The principal question which is agitating the workmen of this city is how to obtain steady employment. The state of trade for the past few years has been such as to demand that steps should be taken to remedy the evils complained of by reducing the hours of labor, by legislation or otherwise, and we prefer legislation if it can be accomplished that way.

Oshawa collector: The subject of piece-work occupies considerable attention. It is demoralising all branches of trade. The work is rushed out in a hurry without any regard to quality. This system is a means of producing inferior work and inferior workmen, and the apprentices suffer very much from it. With the piece-work system two men can do the work of three with a slight increase of wages, and that it is a great detriment to the various trades is becoming more apparent every day.

Perth collector: Workingmen protest against the existing law of property qualification for municipal councillors. The qualification for councillor should be the same as that for an elector. We also believe the assessment rolls should be published, and would suggest that the simplest way to do that would be to place the amount of each ratepayer's assessment opposite his name on the voters' list.

Peterborough collector: There is an institution here known as the Barnardo Home which ships out children from the old country, leaving the children born and reared in this country nothing to do but to emigrate to the United States or elsewhere.

DIFFICULTIES IN COLLECTING STATISTICS.—The collection of statistics of labor and wages from workmen is fraught with difficulty. Although our collectors were for the most part men identified with and possessing the confidence of labor organisations, the work of collection proved in nearly every case unpleasant and depressing. "There is a lion in the way" to the suspicious or the fearful artisan when the schedules are presented for filling and signing, although thoughtful and intelligent workers can discern nothing to fear but something to welcome. In fact it is a plank in the platform of the Knights of Labor that labor bureaus should be established, and the twenty-six state bureaus now in operation in the United States have been called into existence mainly through the efforts of that order. Dread of additional taxation, fear of comparison with the statement of employers, personal pride, and in some instances absolute indifference stand in the way of many workers in this province in whose interests the collectors have been set to work, and this in the face of the fact that an assurance is given that all the information given in the schedules shall be treated as confidential. One collector says: "Women, as you are no doubt aware, are averse to giving such information, and in some cases are not approachable." The following are selected from among the complaints made by collectors:

Almonte collector: Some insist that the object is to impose a tax, and others refuse, not wishing the amount of their wages to be known.

Bowmanville collector: Even intimate friends have refused me. The men are afraid that their statements will be compared with those of the employer. Some say it is none of your business.

Brantford collector: I would like to state to you that it is almost impossible to get signers to the schedules. But for the assistance I got from the masters I would not have got more than fifty schedules.

Cornwall collector: I can assure you it is the most discouraging business I ever took hold of.

Oshawa collector: I find it a very hard matter to collect statistics. The men don't seem to like the job of filling the schedules.

St. Thomas collector: It is more than difficult to get the reports. Some say they will not give the information wanted to anyone; others promise, but neglect to do so.

Toronto employer: Our men being mostly contractors object to giving the amount they pay their hands, and in fine it is impossible to get anything like a correct return. We have therefore concluded to return form unfilled rather than send in an incorrect one.

WEEKLY WAGES.

NUMBER OF RETURNS.—The following table shows the number of workers whose returns of weekly wages have been received for tabulation:

Classes of workers.	Employers' returns.			Employés' returns.				
	1888.	1887.	1886.	1888.	1887.	1886.	1885.	1884.
Males over 16 years......	19,393	No collection made.	12,933	2,554	2,909	2,453	2,384	2,295
Males under 16 years....	1,391		861	24	37	29	65	56
Females over 16 years....	3,749		2,494	163	322	241	345	264
Females under 16 years..	473		224	11	10	21	17	22
Total............	25,006		16,512	2,752	3,278	2,744	2,811	2,637

The number from employers is far in excess of any previous year, while those from employés are not much below the average. Males over 16 years form over 77 per cent. of the workers furnished by employers, a proportion deviating but a fraction from the annual average. Of those furnished by employés males over 16 years form nearly 93 per cent., or 88½ per cent. on the average for the five years. The number received from employers is nearly nine times the number obtained from employés.

EMPLOYERS' RETURNS.—The weekly statistics of labor and wages of the 25,006 workers are furnished by 756 employers. The following table compares the returns made for the several years, as well as the wages paid:

Year.	Returns from employers.	Number of workers.						Amount of wages	
		Per return.	Total.	Sex.		Age.		Total.	Per worker.
				Male.	Female.	Over 16.	Und'r 16		
	No.							$	$ c.
1888.....	756	33.1	25,006	20,784	4,222	23,142	1,864	196,486	7 86
1886.....	378	43.7	16,512	13,794	2,718	15,427	1,085	130,176	7 88
1885.....	482	37.7	18,171	15,183	2,988	16,520	1,651	143,004	7 87
1884.....	406	47.2	19,157	16,273	2,884	17,187	1,970	150,631	7 86

Nearly 4,000 schedules were mailed to employers of labor throughout the province. Of the returns received 756 were complete enough for tabulation by occupations. This number is exactly twice the number received in 1886, when the last collection was undertaken. The previous returns were obtained by a personal canvass, and only the leading industries were visited. This collection, however, has reached the minor industries, as indicated by the reduction in the average number of workers per employer. Several returns were received which, although classifying the workers by sex and age, gave the wages in bulk for the industry. These were useless in collating the occupations. The figures for 1884 and 1885 are the numbers used in the tabulation by industries, exclusive of hotel employés (who receive board) to be uniform with the years 1886 and 1888. Females form nearly 17 per cent. of the returns against an average of 16 per cent. for the previous three years. The proportion of workers under 16 years is about 7½ per cent. as compared with 8¾ per cent. for the three years 1884-6.

LOCATION OF INDUSTRIES.—The following table shows that the 756 returns of industries are from 227 localities. In 1886 only 87 places furnished returns. Toronto supplies over one-sixth of the reports, while the remaining ten cities give 20 per cent. :

Localities.	No.	Localities.	No.	Localities.	No.	Localities.	No.
Alexandria	3	Durham	3	Milton	2	St. Catharines	8
Alliston	3	*Dutton	3	Mitchell	2	*St. George	2
Almonte	2	Essex Centre	5	Morrisburg	5	*St. Jacobs	4
Alvinston	2	Exeter	2	Mount Forest	3	St. Marys	6
Aurora	2	Fergus	2	New Hamburg	2	St. Thomas	13
Aylmer	3	Galt	4	Newmarket	3	Sarnia	8
Ayr	3	Gananoque	4	Niagara Falls	3	Seaforth	5
Barrie	3	Georgetown	5	Norwich	4	Simcoe	5
Beamsville	2	Glencoe	2	Oakville	4	Smith's Falls	3
Beaverton	3	Goderich	3	Orangeville	2	Stratford	9
Belleville	7	Gravenhurst	3	Orillia	8	Strathroy	4
Berlin	9	Grimsby	3	Oshawa	5	*Tavistock	3
Blenheim	2	Guelph	11	Ottawa	16	Thorold	3
Blyth	2	Hamilton	36	Owen Sound	6	Tilsonburg	3
Bowmanville	5	Hastings	2	Paisley	3	Toronto	127
Bradford	2	Hespeler	3	Paris	3	Trenton	4
Brampton	3	Kemptville	2	Parkhill	3	Walkerton	4
Brantford	18	Kincardine	3	Pembroke	3	*Walkerville	2
Brockville	5	Kingston	15	Penetanguishene	2	Waterloo	4
Carleton Place	3	Leamington	2	Peterborough	15	Welland	3
Chatham	5	*Little Britain	2	Petrolea	10	Whitby	4
*Chatsworth	2	Lindsay	7	Picton	4	Winchester	2
Chesley	2	*Lion's Head	2	Port Arthur	2	Windsor	6
Clinton	2	Listowel	7	Port Dover	2	Wingham	2
Cobourg	2	London	17	Port Hope	3	Woodstock	4
Colborne	3	*Lyn	2	Prescott	2	*Zurich	2
Collingwood	4	Markdale	2	Preston	4		
Cornwall	4	Merrickville	3	Renfrew	4	Other places (one each)	114
Dundas	8	Merritton	5	Ridgetown	3		
						Total	756

The places furnishing but one industry are as follows :

Acton, *Alton, Amherstburg, *Ancaster, *Appleton, Arkona, Arthur, *Atwood, *Baden, *Beachburg, *Blair, *Blind River, Bothwell, Bracebridge, *Bradshaw, Brighton, Brussels, Burlington, *Byng Inlet, Campbellford, *Cargill, *Clarksburg, Clifford, *Cockburn Is., *Collin's Bay, *Comber, *Creemore, *Crown Hill, *Demorestville, Deseronto, *Drew, *Dublin, *Dunblane, Dunnville, *Elginfield, Elora, *Fairfield Plain, *Fesserton, *Flesherton, *Fletcher, *Fordwich, Forest, *Formosa, *Frankford, *Gorrie, *Greensville, *Hanover, Huntsville, Ingersoll, Iroquois, *Keewatin, *Kerwood, *Khiva, *Kinmount, Lakefield, *Lambton Mills, *Limehouse, Lucan, Madoc, *Maxville, Meaford, Milverton, *Mimico, *Neustadt, Newburgh, *New Lowell, Norwood, *Odessa, *Orono, *Orr Lake, *Otterville, Palmerston, *Pike Creek, *Pontypool, *Port Burwell, Port Elgin, *Port Lambton, Port Perry, Port Stanley, Richmond Hill, *Rockwood, *Rodney, *Ryckman's Corners, *St. Ann's, *Schomberg, *Shedden, Shelburne, *Singhampton, Southampton, *Spanish River, *Springford, Stayner, Stouffville, *Tarbert, Thornbury, Tilbury Centre, Tiverton, *Tweed, Uxbridge, *Vandorf, *Vereker, Wallaceburg. Wardsville, *Warwick, Waterdown, *West Flamboro, *West Lorne, *Whitechurch, Wiarton, *Winona, *Winthrop, *Wolverton, Wroxeter, *York.

EMPLOYÉS' RETURNS BY OCCUPATIONS.—The following analysis of the employés' returns from males over 16 exhibits the number in the several occupations by localities, and a reference to the table† of average wages by occupation will show what effect this distribution has in determining the general average for each town or city. These returns were collected from 24 cities, towns and villages :

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* Unincorporated village. † Table I.

Localities.	Apprentices.	Bakers.	Blacksmiths and horse shoers.	Blacksmith's helpers.	Bricklayers and stonemasons.	Carpenters and woodworkers.	Carriage and wagon makers.	Cigarmakers.	Coopers.	Cotton and woollen mill employés.	Engineers and firemen.	Foremen.	Furniture factory employés.	Harnessmakers.	Laborers.	Machinists and fitters.	Marble cutters.	Moulders.	Organ and piano factory employés.	Painters and paper hangers.	Plasterers.	Printers and pressmen.	Railway employés, road and shop.	Salesmen.	Shoemakers.	Stone cutters.	Tailors and cutters.	Tannery employés.	Teamsters and drivers.	Tinsmiths.	Miscellaneous.	Total.
Almonte	1	..	2	....	....	4	1	..	..	10	....	....	1	1	3	2	..	....	....	....	1	2	1	2	1	....	1	....	2	1	4	40
Bowmanville	1	..	1	....	....	....	....	..	..	....	....	4	25	1	3	....	1	....	11	1	....	....	....	..	3	....	....	....	1	1	....	53
Brantford	5	2	8	....	2	9	1	..	..	17	2	4	....	5	6	6	.	6	....	2	....	6	....	6	2	....	2	....	1	4	13	109
Brockville.........	1	8	4	....	2	2	....	1	..	....	3	2	....	1	8	13	..	21	....	4	1	....	16	3	1	3	3	2	2	..	18	119
Carleton Place.....	..	..	3	4	....	5	....	..	..	5	1	....	....	....	15	15	..	....	....	2	....	....	5	..	4	....	....	3	....	3	6	71
Chatham	6	2	15	5	1	9	6	..	4	9	8	12	10	3	8	10	..	3	....	4	....	2	5	7	5	....	8	....	4	5	46	197
Cobourg...........	..	..	2	2	....	1	...	..	..	44	1	6	....	....	3	5	..	....	....	7	....	....	8	..	....	....	....	....	1	..	1	81
Cornwall	1	..	....	....	5	....	....	..	..	32	1	....	....	....	6	....	..	...	....	....	....	....	....	3	....	....	1	....	2	..	3	54
Galt	3	..	2	1	5	9	....	..	..	....	1	....	....	....	8	12	..	1	....	2	....	....	....	..	....	....	....	....	...	4	...	48
Gananoque.........	..	..	6	....	....	6	3	..	..	....	1	2	....	....	2	5	..	....	1	2	....	1	....	3	3	....	....	....	....	..	8	42
·Guelph	2	6	12	....	17	14	....	2	12	....	11	1	14	2	20	15	2	9	16	10	5	1	1	11	10	3	5	....	26	7	35	269
Hamilton	1	1	1	....	8	13	....	10	.	9	1	1	16	1	21	29	..	10	....	12	....	...	....	1	2	....	1	....	2	2	58	200
Kingston '.........	1	8	8	7	....	6	2	7	..	2	5	1	....	4	22	10	..	7	5	1	1	8	3	8	9	4	9	6	5	2	22	173
London	13	2	10	3	1	33	5	4	2	....	2	5	5	6	15	19	..	16	....	21	....	8	4	..	16	....	2	9	....	15	10	226
Oshawa	..	..	3	1	....	2	....	..	..	....	....	2	....	....	5	2	..	9	....	3	....	....	....	..	....	....	....	4	....	..	13	44
Ottawa............	1	..	1	....	4	....	...	..	..	....	1	....	....	....	2	....	2	....	....	....	....	2	....	..	....	6	....	....	....	1	....	20
Perth	..	..	8	3	6	1	2	..	..	....	....	....	2	....	6	5	..	....	....	6	4	....	10	..	3	....	3	....	....	2	1	62
Peterborough	1	..	....	....	2	11	3	..	..	1	....	....	2	1	16	4	..	4	....	4	....	....	....	..	....	....	3	....	....	1	2	55
St. Catharines.....	2	6	6	....	9	17	....	..	2	....	....	....	....	....	15	....	9	....	....	9	....	7	....	..	....	6	11	4	7	4	41	156
St. Thomas........	1	..	....	1	....	5	....	..	..	....	1	1	2	....	4	3	..	....	....	2	....	....	2	1	....	....	....	....	1	1	5	30
Smith's Falls......	..	..	3	1	....	2	....	..	..	....	....	....	....	....	2	2	..	....	...	1	...	....	....	..	....	....	....	....	....	..	....	11
Stratford..........	17	2	9	7	2	15	....	..	3	8	5	3	14	....	3	26	4	2	....	3	1	7	33	7	3	1	4	3	3	4	21	210
Toronto	10	2	27	1	17	25	4	..	.	...	1	9	7	6	8	12	..	3	17	14	6	26	....	..	5	5	....	14	1	..	27	247
Uxbridge	..	1	....	2	....	6	....	..	..	....	....	1	....	....	5	3	..	1	5	....	....	....	6	..	....	....	1	....	1	1	4	37
The Province:																																
With dependents..	..	23	106	28	67	163	21	17	18	81	37	52	73	18	166	140	15	78	41	79	16	38	79	18	55	24	31	35	41	31	266	1857
Without depend'ts	67	17	25	10	14	32	6	7	5	56	8	2	25	13	40	58	3	14	14	31	3	32	15	34	12	4	23	10	18	27	72	697
Total.......	67	40	131	38	81	195	27	24	23	137	45	54	98	31	206	198	18	92	55	110	19	70	94	52	67	28	54	45	59	58	338	2554

In this table the leading trades are taken from all the industries, and the latter only include such occupations as are not elsewhere specified Hence, for instance, the small number of returns shown in carriage works in which blacksmiths, painters, etc. are employed. Under the head of 'miscellaneous' are included 25 planing mill employés, 10 bookbinding employés, 14 book-keepers. 14 barbers, 15 porters, 10 packers, 16 millers, 17 plumbers, 10 boilermakers, 12 watchmen, 18 stove foundry employés, 10 glass works employés, 10 brush and broom makers, 20 axe and saw makers, and 13 paper bag makers. In the column of specials are embraced, in Brockville—9 porters; Chatham—20 lumber or planing mill employés, 3 porters and 5 millers; Guelph—6 barbers, 5 packers, 7 watchmen, 5 butchers and 6 hostlers; Hamilton—15 stove mounters and polishers, 10 glass blowers, 5 sewing machine makers, 5 brush makers and 4 hatters; Kingston—3 planing mill hands, 5 broom makers and 4 quarrymen; Oshawa—4 melters, 3 chain makers and 4 scythe makers; St. Catharines—8 millers, 4 plumbers, 5 caulkers and 20 axe and saw makers; Toronto—6 bookbinders, 4 book-keepers, 3 travellers and 12 paper bag makers.

EMPLOYERS' RETURNS BY OCCUPATIONS.—The following table shows the number of workers in the chief industries or occupations as given by employers:

Industry or occupation.	No.
MALES OVER 16 YEARS.	
Agricultural works and foundries	659
Apprentices	1,185
Bakers	65
Biscuits and confectionery	123
Blacksmiths	365
Blacksmiths' helpers	172
Boatbuilders	33
Boilermakers	101
Boilermaker's helpers	197
Bookbinderies	108
Bookkeepers	147
Boot and shoe factories	155
Bottlers	38
Brass workers	79
Brewing and malting works	97
Bricklayer and stonemasons	155
Brickyards	152
Bridge builders	66
Brush and broom makers	75
Canning factories	106
Carpenters	426
Carpet factories	36
Carriage works	154
Cigar factories	128
Clerks (office)	77
Coopers	95
Core makers	39
Cotton mills	360
Drillers	38
Electric light works	35
Engineers (stationary)	275
Firemen	148
Flour mills	106
Foremen	672
Furnace men	42
Furniture works	561
Gas works	264
Grinders	51
Harnessmakers & saddlers	50
Jewelers and watchmakers	52
Knife factory	42
Laborers (general)	355
Laborers (builders')	224
Lithographing	58
Lumber mills	839
Machinists and fitters	1,015
Machinists' helpers	44
Marble cutters & polishers	50
Moulders	576
Moulders' helpers	72
Newspapers and printing	414
Oil refineries	31
Packers	133
Painters	442
Paper mills	149
Pattern makers	81
Piano and organ factories	191
Planing mills	388
Plasterers	38
Plumber and gas fitters	61
Polishers (metal)	36
Pork packers	49
Porters	43
Railways	1,351
Rolling mills	43
Safe works	43
Salesmen	184
Sash, door and blinds	65
Sewing machines	78
Shingle mills	43
Shippers	118
Shovel and spade makers	44
Soap makers	55
Stave mills	65
Stone cutters	151
Stoneware makers	43
Street railways	327
Tack and nail makers	38
Tailors	58
Tanneries	362
Teamsters	421
Tinware works	108
Travellers and agents	96
Trunk and bag makers	88
Watchmen	107
Wheelmakers	75
Woodbenders	37
Woodturners	60
Woodworker	478
Woollen mills	670
Yardmen	59
All others (less than 30)	1,117
MALES UNDER 16 YEARS.	
Apprentices	307
Biscuits and confectionery	47
Canning factories	25
Cigar factories	23
Cotton mills	114
Errand boys	36
Flax mills	20
Fruit basket makers	25
Furniture works	21
Lumber mills	55
Newspapers and printing	82
Office boys	28
Planing mills	41
Stave mills	37
Tinware works	25
Woollen mills	194
All others (less than 20)	311
FEMALES OVER 16 YEARS.	
Apprentices	51
Biscuits and confectionery	133
Bookbinderies	118
Boot and shoe factories	74
Brush and broom works	34
Canning and pickling	303
Carpet weavers	30
Cigar factories	62
Corset factories	139
Cotton mills	417
Dress and mantle makers	45
Envelope makers	27
Forewomen	28
Furniture works	21
Furriers	65
Glove makers	27
Knitting mills	257
Newspapers and printing	27
Paper mills	166
Saleswomen	91
Seed growing	58
Shirt and collar makers	271
Tailoresses	122
Undertaker's supplies	22
Woollen mills	839
All others (less than 20)	322
FEMALES UNDER 16 YEARS.	
Apprentices	25
Biscuits and confectionery	51
Bookbinderies	21
Canning factories	29
Cotton mills	126
Knitting mills	26
Woollen mills	123
All others (less than 20)	72

NOTE.—The number in any industry does not include occupations elsewhere specified as in Table I.

Foremen and forewomen aggregate 700 or on the average one out of every 36 workers. The industries reporting 10 foremen and upwards are,—agricultural works n.e.s. 15; bookbinderies, 10; carpenters, 16; cotton mills, 26; flour mills, 30; furniture works, 14; knitting mills, 22; lumber mills, 23; machinists, 17; paper mills, 11; piano and organ factories, 15; planing mills, 18: printing offices. 39; railways, 173; tanneries, 14: and woollen mills, 52. Among other occupations or industries represented the following may be mentioned:—*Males over 16 years*—Axe factories, 20; button makers, 15; dye works, 15; fanning mill works, 20; flax mills, 15; fruit basket makers, 25; furriers, 16; handle factories, 24; knitting mills, 28; millwrights, 20; quarrymen, 24; rivetters, 23; rope makers, 24; salt works, 19; saw works, 29; scale works, 29; silverplaters, 17; undertaker's supplies, 27; warehousemen, 27; window shade makers, 24; wireworkers, 23, etc., etc. *Males under 16*—Agricultural works, 12; bottlers, 14; brickyards, 19: brush and broom makers, 17; knife works, 12; lithographers, 17; packers, 18; paper mills, 11; rivet boys, 12; rope makers, 10; soap factories, 15; street railways, 19; trunk factories, 18, etc *Females over 16*—Bookkeepers, 17; button makers, 11; carriage furnishings, 13; clerks and cashiers, 13; dye works, 19; fancy goods 19; jewelers and engravers, 12; milliners, 18; railways, 12; rope makers, 14; soap factories, 10; tinware, 19; trunk factories, 12, etc. *Females under 16*—Cigar factories, 9; packers, 11; saleswomen, 9, etc.

EMPLOYÉS' WAGES COMPARED BY LOCALITIES.—The average time and wages of the several classes by sex and age derived from employés' returns for a full week are compared by collectors' localities as follows:

Localities.	Males over 16 years.						Males under 16.		Females over 16.		Females under 16.		All classes.	
	With dependents.		Without dependents.		Total.									
	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.
	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.
Almonte	9 03	60.67	7 50	60.88	8.07	60.80	2.85	60.00	3 96	60 00	....	......	6 72	60.55
Bowmanville	10 13	59.08	9 15	60.00	9.87	59 32	....	......	....	......	....	......	9 87	59.32
Brantford	10 27	59.32	7.03	59.16	8 99	59.26	....	......	4.14	50.86	....	......	8 70	58.75
Brockville	11 11	62.56	9 82	63.17	10 66	62.77	....	......	....	.....	....	.....	10 66	62 77
Carleton Place	8 84	60.50	7 84	60.00	8 57	60.37	....	......	4 25	60.00	....	......	8 34	60.35
Chatham	10 12	61.48	7 39	61.26	9 65	61.45	...	......	4 34	59.13	....	......	9 44	61.36
Cobourg	10 12	58.41	7 15	58.15	9 13	58.32	3 27	58.00	4 96	58.00	3 00	58.00	7 99	58.25
Cornwall	8 35	61.63	8 71	61.91	8 43	61.61	....	......	5 37	60.29	....	......	7 80	61.40
Galt	10 04	58.75	8 33	58.10	9 33	58.48		......	....	......	....	.....	9 33	58.48
Gananoque	10 28	57.80	8 38	57.83	9 74	57.81	3 00	60 00	5 50	60.00	....	. ..	9 16	58.08
Guelph	10 22	60.48	7 49	60.49	9 74	60.48	4 50	59 00	4 21	52.57	....	....	9 56	60.27
Hamilton	10 51	56.32	9 62	57.85	10 31	56.68	....	......	....	......	....	......	10 31	56.68
Kingston	9 63	59.80	8 03	60.16	9 10	59 92	....	.....	5 22	58.70	....	......	8 89	59.85
London	9 68	57.04	7 06	58.26	9 18	57.27	....	......	5 95	54.00	....	......	9 11	57.20
Oshawa	11 06	56.84	9 58	60.67	10 85	57.36	....	.....	....	......	....	. . .	10 85	57.36
Ottawa	13 59	58.94	12 50	56.75	13 38	58.50	....	......	....	......	....	.....	13 38	58.50
Perth	9 98	60.00	9 57	61.50	9 87	60.39	....	.....	....	.. .	....	......	9 87	60.39
Peterborough	10 10	58.59	7 79	59.48	9 14	58.96	. ..	....	4 38	54.00	....	. ...	8 81	58.63
St. Catharines	10 93	58.69	9 66	57.27	10 69	58.42	....	.....	4 25	57.00	....	.....	10 53	58.38
St. Thomas	10 26	62 88	8 09	60.00	9 82	62.30	. ..	.....	....	......	....	..... .	9 82	62.30
Smith's Falls	9 32	60.00	.....	......	9 32	60.00	....	......	....	......	....	.....	9 32	60.00
Stratford	10 35	60.18	7 82	60.46	9 39	60.29	2 44	60 00	5 68	60.38	....	.....	8 76	60.29
Toronto	12 29	55.22	9 30	56 00	11 20	55.51	....	...	4 35	54.52	2 58	55.00	9 95	55.34
Uxbridge	8 52	60.40	8 40	60.00	8 52	60.38	....	......	....	......	....	......	8 52	60.38
The Province . 1888	10 32	59.06	8 32	59.32	9 77	59.13	3 01	59.17	4 75	57.10	2 85	56.91	9 39	59.00
1887	......	......	.....	......	9 18	58.88	3 11	56.41	4 58	57.21	2 06	55.30	8 63	58.68

Males over 16 years have been divided into two classes, those with dependents and those without. The averages of the province show us that the former earn exactly two dollars per week more than the latter. The returns of these two classes are in proportion of 8 to 3, and the average of the two classes together so computed is $9.77. The ratio of the returns of the two classes in 1887 was as 8 to 4⅓, and at this proportion our average this year would be $9.62, or 44 cents higher than last year. This even may not be an increase in the average individual's wages, but may be due to a difference in the proportionate representation of the several occupations. In 9 of the 24 towns and cities in which collection was made the average wages of males over 16 exceed the average of the province, Ottawa coming first, with Toronto second. An analysis of the returns will show, however, that the few returns received from Ottawa are confined almost wholly to the building classes, in which the weekly wages are high and the yearly employment short. The information from this source shows that females over 16 averaged 17 cents higher than in 1887, the rates ranging from $3.96 for 60 hours in Almonte to $5.95 for 54 hours in London. There is great diversity in the average for all classes, chiefly owing to the disproportion of classes as well as of occupations. This becomes more apparent by a comparison with the averages obtained from the employers' returns. In the latter we are more liable to find a truer representation of classes and occupations on account of the greater variety of returns, and because the full pay list is given. From the employés, however, we have only been able to obtain the statistics from the more experienced and enlightened workers, and these are apt to show marked differences by reason of absence or presence of certain occupations. In the present returns the building trades (bricklayers, plasterers, stone cutters and stonemasons) are present to an unusual extent. Their effect will be noticed in the weekly statistics, but not so much in the yearly wages as the short employment partly counterbalances the high weekly rate.

COMPARATIVE SUMMARY OF AVERAGES.—The following table summarises the average of weekly time and wages derived from the returns obtained from employers and employés, for the four years 1885-8, together with the annual averages:

Years.	Males over 16.		Males under 16.		Females over 16.		Females under 16.		All classes.	
	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.
	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.
Employés:										
1888........	9 77	59.13	3 01	59.17	4 75	57.10	2 85	56.91	9 39	59.00
1887	9 18	58.88	3 11	56.41	4 58	57.21	2 06	55.30	8 63	58.68
1886........	9 09	58.07	2 84	58.86	4 29	58.21	2 60	59.67	8 55	58.18
1885........	9 00	58.72	2 86	61.43	4 26	59.06	2 79	57.65	8 23	58.82
Average..	9 26	58.70	2 96	58.97	4 47	57.90	2 58	57.38	8 95	58.67
Employers:										
1888.	9 04	59.16	2 83	55.53	4 23	56.46	2 73	56.96	7 86	58.51
1886........	8 99	59.00	2 92	55.75	4 38	55.68	2 23	57.51	7 88	58.31
1885	9 13	59.63	2 93	49.84	4 37	58.74	2 50	56.20	7 87	58.78
Average..	9 05	59.26	2 89	53.37	4 33	56.96	2 49	56.89	7 87	58.53
Both sources:										
1888........	9 13	59.15	2 83	55.59	4 25	56.49	2 73	56.96	8 01	58.56
1886........	9 00	58.86	2 92	55.85	4 37	55.90	2 26	57.70	7 98	58.28
1885	9 11	59.50	2 93	50.43	4 36	58.77	2 52	56.31	7 92	58.79
Average..	9 08	59.17	2 89	53.96	4 33	57.05	2 50	56.99	7 97	58.54

The averages derived from employers' returns show a remarkable closeness throughout the classes. Males over 16 are paid one cent below the annual average, and work 6 minutes less. Females over 16 earn 10 cents less than the average and the working time per week is half an hour shorter. The average for all classes decreased but a cent from the annual average, while the weekly time is also a shade lower No averages were made for the separate classes in 1884 and the data are not now available, but the average wage of all classes was $7.86. Partly owing to causes previously mentioned, there is not such a uniformity in the averages derived from the employès' returns. The weekly wages of males show an increase over the annual average of 51 cents, and an increase in time of 26 minutes. Returns from males and females under 16 are too few for comparison, but females over 16 show an increase in wages of 28 cents and a reduction of 48 minutes as compared with the annual averages. All classes average 44 cents more than for the four years, and the working time is one-third of an hour longer. The annual average weekly wages as given by employés exceed the rates as stated by employers in every class, and although the difference is but 21 cents in the case of males over 16 and less in the other classes, the average for all classes shows an excess of $1.08, being 36 cents in 1885 (when the employés show 13 cents less than employers for males over 16) and as high as $1.53 in 1888. As already stated, the difficulty of obtaining anything like a true proportion of the sub-classes from the employés is mainly accountable for the discrepancy, apparent rather than real, between the averages derived from the two sources. A happy medium may be found by deriving averages from the aggregates of the two sources. This can only be done for the three years 1885-6-8, as no collection was made from employers in 1887. Males over 16 show an increase of 5 cents and females over 16 a decrease of 8 cents as compared with the annual average, while the average of all classes shows an increase of 4 cents per week.

RANGE OF WEEKLY WAGES BY LOCALITIES.—The following table has been prepared to show the distribution of the employés' returns of males over 16 years received from the several towns by means of ranges of a full week's wages:

Localities.	Males over 16 with dependents.									Males over 16 without dependents						
	$6 and under.	$6 to $7.50	$7.50 to $9.	$9 to $10.50.	$10.50 to $12.	$12 to $13.50.	$13.50 to $15.	Over $15.	Total.	$6 and under.	$6 to $7.50.	$7.50 to $9.	$9 to $10.50.	$10.50 to $12.	Over $12.	Total.
Almonte	5	2	4	1	1	....	1	1	15	13	5	2	2	2	1	25
Bowmanville	1	7	8	10	8	3	2	....	39	3	1	3	3	4	....	14
Brantford	3	9	18	9	17	2	5	3	66	21	7	8	4	3	....	43
Brockville	....	8	16	20	17	1	8	7	77	4	6	10	11	7	4	42
Carleton Place	9	14	13	2	12	....	2	....	52	2	11	5	....	1	....	19
Chatham	4	29	46	37	24	5	13	5	163	9	11	6	3	5	....	34
Cobourg	3	13	14	5	8	2	7	2	54	7	10	9	1	....	....	27
Cornwall	17	6	8	6	3	....	....	3	43	3	1	2	3	1	1	11
Galt	2	5	5	7	6	1	....	2	28	4	3	4	5	3	1	20
Gananoque	3	3	6	4	11	1	2	....	30	4	3	2	....	2	1	12
Guelph	3	33	55	53	57	....	18	3	222	15	13	14	4	1	....	47
Hamilton	....	20	38	48	28	6	3	11	154	4	10	14	6	4	8	46
Kingston	7	25	26	23	22	3	9	1	116	16	10	19	7	5	....	57
London	10	20	50	66	27	4	4	2	183	18	5	12	5	1	2	43
Oshawa	....	8	8	6	5	3	3	5	38	....	1	3	....	2	....	6
Ottawa	....	2	3	....	3	....	1	7	16	1	....	....	....	1	2	4
Perth	....	8	20	8	3	1	5	1	46	....	5	7	1	....	3	16
Peterborough	1	8	8	7	2	....	4	2	32	6	7	6	4	....	....	23
St. Catharines	2	15	18	31	34	8	10	8	126	3	6	6	7	4	4	30
St. Thomas	1	3	5	7	3	3	1	1	24	2	1	1	....	2	....	6
Smith's Falls	1	2	2	4	1	....	1	....	11	....	....	....	....	....	....	....
Stratford	4	17	38	25	24	7	8	7	130	28	6	26	9	8	3	80
Toronto	1	8	7	26	54	19	17	25	157	20	11	17	15	15	12	90
Uxbridge	5	10	10	6	3	1	....	....	35	....	....	2	....	....	....	2
Total	82	275	426	411	373	70	124	96	1,857	183	133	178	90	71	42	697

The following table gives a summary of the above for the province, and shows the number of workers in each range classified as with and without dependents. The average weekly wages in the several ranges are also shown, together with the average yearly employment received by the workers in each range :

Schedule.	$6.00 and under.	$6.00 to $7.50.	$7.50 to $9.00.	$9.00 to $10.50.	$10.50 to $12.00.	$12.00 to $13.50.	$13.50 to $15.00.	Over $15.00.	Total.
With dependents:									
No. of workers	82	275	426	411	373	70	124	96	1,857
Average wages ...$	5 85	7 27	8 71	10 11	11 66	13 01	14 75	18 02	10 32
Days employed	266	273	274	271	269	275	261	217	268
Without dependents :									
No. of workers	183	133	178	90	71	13	14	15	697
Average wages ...$	5 02	7 23	8 68	10 10	11 65	12 82	14 32	17 67	8 32
Days employed	289	275	272	272	269	236	223	188	273
Total males over 16 :									
No. of workers	265	408	604	501	444	83	138	111	2,554
Average wages ...$	5 28	7 26	8 70	10 11	11 66	12 98	14 76	17 97	9 77
Days employed....	282	274	273	271	269	269	257	213	269

In those with dependents the greatest number of returns is to be found in the range from $7.50 to $9, and nearly 58 per cent. of the returns show wages above this range. The average wages of those earning over $15 is $18.02 or $7.70 more than the average of all, while the yearly employment in this range is but 217 days or 51 days below the average. In the class without dependents the largest number is to be found in the lowest range and the average is $5.02 or $3.30 less than the average in all the ranges. About 29 per cent. of this class receive over $9 per week and 6 per cent. get over $12, the average being $15.22 or $6.90 more than the average of all ranges. The yearly employment in this range is but 214 days or 59 days below the average. It will be observed too in this division of males that as the weekly wages increase the number of days employed diminishes, and the converse also holds true as will be found by examining a later table showing the ranges of days employed.

The females are arranged by a different series of ranges of wages as follows :

Range of weekly wages.	Almonte.	Brantford.	Carleton Place.	Chatham.	Cobourg.	Cornwall.	Gananoque.	Guelph.	Kingston.	London.	Peterborough.	St. Catharines.	Stratford.	Toronto.	Total.	Average wages.	Days employed.
																$. c.	
$3 and under...	1	2	....	3	....	....	....	....	....	....	....	....	3	6	15	2 93	281
$3 to $4........	10	3	2	....	....	2	2	5	3	....	2	2	6	18	55	3 85	280
$4 to $5........	3	1	2	4	5	3	1	2	1	2	1	2	6	22	55	4 76	275
$5 to $6........	....	1	....	....	....	9	1	....	5	1	1	....	3	2	23	5 76	273
Over $6.........	....	....	....	1	....	....	1	....	1	2	....	....	8	2	15	8 32	263
Total........	14	7	4	8	5	14	5	7	10	5	4	4	26	50	163	4 75	276

An equal number is found in the ranges $3 to $4 and $4 to $5, while over three-fourths earn $5 and under. Here, also, as the wages increase the days decrease.

Of the 24 males under 16 years, 19 earn $3 or under, the average wages being $2.62, and the employment lasts 294 days. The other five average $4.50 per week, and work 293 days.

Of females under 16 years, 8 earn $3 and under, an average of $2.71 per week and are employed 294 days, while 3 average $3.22 each per week for 271 days.

In this manner we might proceed to form a scale of distribution of wages by occupations, and compare these tracings from year to year. But to do this we must have a large number of returns. The schedules furnished by employers would answer the purpose if the wages of each worker were given singly in all cases, as required with this intent in sample sheet. A certain portion of those received, however, bulk the statistics of a number of workers in an occupation and are only useful in determining averages. We hope to be able to succeed in this direction in our next report. By increasing the number of ranges and erecting upon a straight line perpendiculars proportional to the numbers in the ranges, a *curve of distribution of wages* may be described by the ends of those lines. The fluctuation in wages from one period to another could be graphically represented by these curves.

LEADING TRADES COMPARED.—The following table gives the average weekly wages and time by towns and cities for the five leading occupations, as derived from employés returns. The returns number 566 with dependents and 160 without dependents:

Localities.	Blacksmith.		Carpenter.		Machinist.		Moulder.		Painter.		Average for five trades.	
	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours	Wages.	Hours.
	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.
Almonte	7 50	60.00	10 13	60.00	11 00	60.00	......	.....	......	.....	9 69	60.00
Bowmanville	7 00	60.00	.....	....	....	......	......	......	9 83	60.00	9 13	60.00
Brantford	8 38	59.63	10 59	59.38	9 48	59.33	12 17	58.67	10 50	59.50	10 09	59.30
Brockville	9 88	62.50	9 00	60.00	9 62	59.08	9 98	60.19	12 00	60.00	10 00	60.10
Carleton Place	10 30	58.00	9 30	60.00	10 07	59.47	.....	......	7 35	60.00	9 73	59.44
Chatham	10 48	59.60	9 20	59.20	9 10	59.30	12 25	60.00	9 25	59.25	9 88	59.44
Cobourg	12 00	59.00	10 50	58.00	11 79	58.80	......	.....	9 75	59.00	10 78	58.87
Cornwall	......	.....	.....	.....	......	......	......	......	......	......	......	.....
Galt	11 25	60.00	10 47	59.00	10 46	56.92	11 00	55.00	9 38	56.50	10 46	57.72
Gananoque	10 20	57.80	10 50	60.00	12 10	59.80	......	......	9 75	60.00	10 86	59.14
Guelph	10 42	59.17	10 96	59.23	10 96	59.00	11 17	59.89	10 35	57.20	10 77	58.75
Hamilton	10 50	59.00	10 26	56.77	10 00	58.91	14 06	58.10	10 71	55.00	10 78	57.69
Kingston	10 75	58.63	9 75	59.75	9 99	57.40	10 63	59.00	9 00	59.00	10 27	58.47
London	9 69	59.60	10 02	55.03	11 00	59.00	10 08	59.13	9 00	57.65	9 96	57.48
Oshawa	10 00	59.00	9 75	59.50	9 00	59.00	14 79	54.00	10 50	59.00	12 13	56.80
Ottawa	15 00	59.00	......	......	......	.....	.....	......	......	......	15 00	59.00
Perth	9 94	60.00	9 00	60.00	8 82	60.00	......	......	9 17	60.00	9 38	60.00
Peterborough	......	.....	9 72	60 00	11 50	60.00	13 31	54.75	7 50	60.00	10 26	58.95
St. Catharines	10 50	59.57	11 50	56.82	......	.....	......	.....	10 50	59.17	11 07	57.93
St. Thomas	.....	.....	11 04	59.80	11 90	60.00	......	.....	9 10	60.00	10 91	59.90
Smith's Falls	10 50	60.00	9 30	60.00	12 38	60.00	......	......	8 10	60.00	10 37	60.00
Stratford	9 94	57.22	10 68	58.33	10 33	57.60	9 50	60.00	10 83	60.00	10 36	57.96
Toronto	10 44	59.89	11 69	51.04	11 23	56.33	14 40	60.00	11 43	54.71	11 25	55.80
Uxbridge	.....	......	9 59	59.67	9 33	58.67	7 50	60.00	......	......	9 31	59.40
The Province:												
1888	10 18	59.40	10 51	57.02	10 35	58.58	11 55	58.53	9 97	57.83	10 45	58.22
1887	9 82	58.88	9 82	52.87	9 65	56.93	12 19	57.89	9 78	57.77	10 04	56.17

These five trades constitute over 28 per cent. of the returns from males over 16, as against 19 per cent. in 1887. This percentage in Galt was 54, in London 44, in Oshawa 43, and in Peterborough 42. Compared with the returns of 1887 blacksmiths' wages increased by 36 cents, and their time by half an hour. Carpenters' wages increased by 69 cents and the time by 4.15 hours, showing a decrease of half a cent per hour. Machinists' wages show an increase of 70 cents, and the time is lengthened by 1.65 hours. Moulders' wages fall 64 cents, while the time is increased. Painters get 19 cents a week more than in 1887 for about the same time. In the aggregate the wages for the five trades are better by 41 cents, but with an increase of 2.05 hours in the working time, or the average per hour is but slightly in excess of 1887. The averages in this table embrace all the subdivisions of the trade, horse-shoers being included with blacksmiths, woodworkers with carpenters, etc. All foremen, however, are omitted.

AVERAGE FROM EMPLOYERS AND EMPLOYÈS.—The variation of the averages for the five leading trades as derived from returns made by employers and employés is shown in the following table. The figures for the five years are also given as well as the annual averages:

Years.		Blacksmith.		Carpenter.		Machinist.		Moulder.		Painter.		Average for five trades.	
		Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.
		$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.
Employès		10 18	59.40	10 51	57.02	10 35	58.58	11 55	58.53	9 97	57.83	10 45	58.22
Employers		10 56	58.93	10 05	57.22	10 46	58.25	12 48	57.21	9 37	57.93	10 55	57.80
Averages ..	1888...	10 46	59.05	10 12	57.19	10 44	58.30	12 35	57.39	9 49	57.91	10 54	57.88
	1887...	9 82	58.88	9 82	52.87	9 65	56.93	12 19	57.89	9 78	57.77	10 04	56.17
	1886...	9 93	58.25	9 61	57.38	9 83	59.62	12 05	57.33	9 53	56.32	10 22	57.81
	1885...	9 74	59.15	9 97	58.98	10 16	59.14	11 76	59.15	9 54	57.29	10 26	58.94
	1884...	9 76	58.21	9 98	59.07	10 08	59.17	11 55	58.75	9 72	59.19	10 30	58.95
	1884-8.	9 94	58.71	9 90	57.10	10 03	58.63	11 98	58.10	9 61	57.70	10 27	57.95

The aggregate number in the five trades received from employers was 3,383 or 17½ per cent. of the returns from males over 16, while in the employès returns the proportion was 28 per cent. The average of all occupations is therefore more likely to be affected by these selected trades in the latter than in the former, and the tendency is to increase it. The employers' returns show decidedly higher rates of wages and shorter hours than the employès' returns for blacksmiths and moulders, while the reverse is the case as regards carpenters and painters. The rate quoted by employers for machinists is 11 cents higher than the employès' figures, and the average of the five trades deduced from the aggregate returns is 10 cents higher in the former than the latter. No collection was made from employers in 1887. The average wages from both sources together as compared with any previous year are higher in four of the five trades, the wages of painters being 12 cents below the annual average, while blacksmiths get 52 cents above the average. A return from one of the largest industries employing these trades could not be used, owing to the fact that a portion of the men had to pay their helpers out of the wages credited to them. How far this practice prevails we are unable to say.

OTHER TRADES COMPARED.—Returns from employés of other trades, though not so numerous as the five already selected, are sufficiently represented to give approximate averages for purposes of comparison. In the following table returns from employés and employers are further contrasted and the averages from both sources compared with previous years :

Occupations.	1888.						1887.		1886.		1885.	
	Employers.		Employès.		Average.		Employès.		Average.		Average.	
	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.	Wages.	Hours.
	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.	$ c.	No.
Apprentice	3 65	57.76	3 93	59.37	3 66	57.78	4 05	57.05	3 80	56.75	3 89	58.74
Baker	10 17	57.00	9 92	62.71	10 08	59.11	9 65	64.31	9 32	58.35	9 27	59.84
Blacksmith's helper	7 04	58.06	7 36	58.21	7 08	58.09	7 43	57.55	6 60	54.28	6 46	58.60
Boilermaker	11 89	60.07	11 79	57.90	11 88	59.87	10 85	58.64	11 31	59.69	11 07	56.55
Bookkeeper	11 38	57.70	11 93	56.14	11 43	57.57	12 00	59.87	11 97	56.64	12 77	57.95
Bricklayer	16 19	50.10	15 78	55.22	16 06	51.77	15 75	58.36	13 84	50.84	14 81	57.15
Cabinetmaker	9 41	57.81	9 58	59.44	9 39	57.78	9 20	58.28	9 80	61 21	9 25	59.48
Carriage trimmer..	10 49	58.42	9 73	57.73	10 40	58.30	9 52	57.19	9 72	56.81	11 03	58.62
Cigarmaker	8 06	48.26	9 08	52.73	8 18	48.78	7 76	49.18	8 37	46.90	8 94	52.08
Cooper	9 61	58.99	9 02	58.09	9 50	58.64	8 26	58.09	9 68	56.50	9 48	59.99
Engineer	9 50	61.44	9 06	65.09	9 45	62.49	9 40	65.06	9 63	62.13	9 43	61.94
Fireman	7 49	62.51	8 63	67.00	7 56	62.73	8 62	58.88	8 11	61.80	8 39	61.32
Foreman	14 27	59.68	13 55	58.91	14 21	59.62	14 98	58.79	14 64	58.94	13 89	60.54
Harnessmaker.....	7 53	60.00	8 71	59.46	8 06	59.80	8 50	56.03	9 14	58.78	8 66	59.27
Laborer (general) ..	7 14	57.97	7 31	58.40	7 20	58.12	7 18	58.99	7 18	58.45	7 05	60.81
Marble cutter	11 70	59.00	10 90	59.42	11 50	59.10	13 09	58.42	10 86	57.56	9 83	59.38
Mason (stone)	16 22	52.66	16 10	57.14	16 18	54.31	15 01	57.89	14 04	55.72	12 58	56.76
Miller.	8 60	65.44	10 15	64.63	8 83	65.31	9 75	69.19	9 78	63.19	9 81	64.28
Plasterer	13 72	45.82	13 81	55.40	13 75	49.12	14 58	53.00	13 02	53.90	14 40	58.64
Plumber...........	12 64	52.81	11 51	56.53	12 31	53.88	11 45	55.64	12 18	55.42	10 91	59.95
Pressman	10 38	53.86	10 20	56.80	10 34	54.50	8 83	56.57	9 57	56.16	9 48	58.79
Printer......	8 96	57.55	9 52	57.90	9 05	57.61	10 03	54.97	9 98	57 37	8 51	55.95
Salesman...	9 55	60.58	8 48	60.98	9 32	60.67	8 17	63.05	9 27	57.89	9 64	59.92
Shoemaker	10 91	55.62	9 08	59.19	10 12	57.16	8 09	59.60	8 94	58.13	7 97	59.40
Stonecutter	18 20	51.38	15 95	57.68	17 85	52.37	.....	......	17 45	59.48	12 90	57.41
Tailor	9 38	57.32	10 22	59.43	9 79	58.09	9 65	59.28	9 75	58.82	10 16	59.63
Tanner and currier.	7 71	59.59	9 46	58.43	7 94	59.44	8 74	60.51	8 60	59.11	8 34	59.14
Teamster and carter	7 29	60.51	7 68	62.03	7 32	60.61	6 95	60.15	7 42	57.97	7 34	60.83
Tinsmith	10 13	59.70	9 09	58.74	9 65	59.25	9 22	59.27	10 00	59.70	9 20	60.17

The workers in these 29 occupations are all males over 16. They form about 43 per cent. of the employès' returns in this class and but 28 per cent. of the employers' contribution. In fifteen of these occupations, or a bare majority, the employès' figures are below those given by employers, and in nine they are below the average wages derived in 1887. The averages obtained from both sources are lower in 14 of these trades than similar averages in 1886. The full list of occupations as returned will be found in Table I, but the averages from the two sources are not given there separately. The annual average working hours and wages for a named week for the above occupations derived for the five years 1884-8 are as follows : apprentice, 57.6 hours, $3.74 ; baker, 60.7 hours, $9.27 ; blacksmith's helper, 56.5 hours, $6.83 ; boilermaker, 58.2 hours, $11.18 ; book-keeper, 57.8 hours, $12.00 ; bricklayer, 55.4 hours, $15.07 ; cabinet maker, 59.3 hours, $9.44 ; carriage trimmer, 57.9 hours, $10.16 ; cigar maker, 51 hours, $8.54 ; cooper, 58.6 hours, $9.19 ; engineer, 62.5 hours, $9.45 ; fireman, 62.2 hours, $8.35 ; foreman, 59.6 hours, $14.69 ; harnessmaker, 58.5 hours, $8.65 ; marble cutter, 58.7 hours, $11.02 ; mason (stone) 56.7 hours, $14.44 ; miller, 65.6 hours, $9.83 ; plasterer, 55 hours, $13.81 ; plumber, 57 hours, $11.54 ; pressman, 57.7 hours, $9.64 ; printer, 56.8 hours, $9.39 ; salesman, 60.4 hours, $9.12 ; shoemaker, 58.4 hours, $8.73 ; stone cutter, 57.2 hours, $15.65 ; tailor, 59.1 hours, $9.79 ; tanner and currier, 59.6 hours, $8.32 ; teamster and carter, 60.6 hours, $7.23 ; tinsmith, 59.6 hours, $9.38. In 11 of the 29 occupations given, the wages in 1888 are below the annual averages, while the wages of engineers and tailors are equal to the average.

YEARLY STATEMENT OF WAGES AND COST OF LIVING.

STATISTICS BY TOWNS AND CITIES.—Schedules showing a yearly statement have been received from 2,752 employés, collected in 24 towns and cities. These have been tabulated by trades and occupations for the whole province in Table II. A similar table by towns and cities would be very valuable for comparison, but as great difficulty seems to be experienced in obtaining a representative number from each trade in each town to make such acomparison trustworthy, the attempt has to be abandoned for the present. The few leading trades hitherto selected as of special prominence have been partially treated in this manner later on. Even for the province a great many trades are wholly unrepresented, and others are deficient in numbers. However, a summary for each town and city is given showing the average for each class of worker, arranged by sex and age, with or without dependents. Those with dependents are further subdivided into owners and tenants. The figures for 1887 and the annual average for the four years 1885-8 are also given, but only as relates to the groups with and without dependents and total workers. The complete data by classes have only been retained since 1886, and annual averages for them are not given. In drawing comparisons from these figures it must be understood that as this is not a complete census the proportion of the classes of workers employed is not necessarily truly represented, and may vary from year to year. An increase or decrease in earnings shown for all classes may not be a corresponding increase or decrease of wages to the average individual, but may be due to the preponderance of a class or of occupations with a higher or lower rate of wages. As an example we may instance the case of averages derived for weekly wages of males over 16 years. The average from employés is $10.32 for workers with dependents and $8.32 for workers without dependents. The proportion returned is as 8 to 3, and thus we derive an average for males over 16 of $9.77, or 73 cents more than given by employers' returns. The reason for this apparent difference is clear, for in the employers' returns from full pay lists the two classes are more truly represented and the occupations are more numerous and varied. A greater divergence must be expected when we aggregate in various proportions males and females whose wages so widely differ.

The following series of tables presents the yearly statistics of time employed, wages earned and cost of living for each town and city : *

ALMONTE.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	8	3.00	2.00	60.00	273.00	446 83	....	......	446 83	308 38	138 45
	m. o. t.	7	2.43	1.43	61.43	298.86	416 04	6 43	......	422 47	331 43	91 04
	Total	15	2.73	1.73	60.67	285.07	432 46	3 00	.....	435 46	319 13	116 33
	1887 .	83	3.41	2.16	60.02	309.48	516 93	2 41	4 82	524 16	391 94	132 22
	1885-8	....	3.33	2.12	......	.....	......	....	......	443 15	352 96	90 19
Without dependents.	m. o. b.	25	......	......	60.88	304.04	380 44	....	....	380 44	256 08	124 36
	m. u. b.	4	......	......	60.00	309.00	146 77	....	.....	146 77	144 26	2 51
	f. o. b.	14	......	......	60 00	294.36	182 16	0 71	......	182 87	131 57	51 30
	Total	43	......	.....	60.51	301.35	294 15	0 23	......	294 38	205 14	89 24
	1887 .	218	.....	......	59.64	309.45	275 78	....	......	275 78	202 19	73 59
	1885-8	....	......	......	......	.....	.....	....	......	258 18	186 26	71 92
All classes..	1888 .	58	......	......	60.55	297.14	329 92	0 95	......	330 87	234 62	96 25
	1887 .	301	.. ..	.....	59.75	309.46	342 28	0 66	1 33	344 27	254 52	89 75
	1885-8	....	......	......	60.42	287.44	318 87	2 71	5 86	327 44	251 36	76 08

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* The initials m.o., m.u., f.o. and f.u. in this series of tables are used to designate males and females *over* or *under* 16 years of age. The third initial o., t. or b. being added to distinguish between owners, tenants and boarders. The number of dependents wherever given is exclusive of the worker.

The number of schedules received from this town was but 58 as compared with 301 in 1887. Of these 44 were males, 15 of them having dependents. For 1888 the returns are chiefly from woollen mills, but only minor occupations were obtained. For workers with dependents the time employed shows a decrease of 24.4 days. The gross earnings decreased by $88.70 and the cost of living by $72.81. For all classes the time employed was 9.70 days over the annual average, the gross earnings show an increase over the average of $3.43, while the cost of living decreased $16.74.

BOWMANVILLE.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	14	2.86	1.86	55.14	267.29	436 07	....	.....	436 07	350 00	86 07
	m. o. t.	24	2.67	1.58	55.29	258.83	411 77	3 38	7 73	422 88	363 43	59 45
	m. o. b.	1	1.00	......	55.00	242.00	364 00	....	......	364 00	360 00	4 00
	Total	39	2.69	1.64	55.23	261.44	419 27	2 08	4 75	426 10	358 52	67 58
Without dependents.	m. o. b.	14	......	......	55.07	255.71	382 07	1.29	.....	383 36	276 93	106 43
All classes............		53	....	.....	55.19	259.92	409 44	1 87	3 50	414 81	336 97	77 84

This town furnished returns from 53 workers, all males, of which 39 have dependents. Over 80 per cent. of the returns are supplied by the employés of the Upper Canada Furniture and the Dominion Organ and Piano companies. No statistics were collected from this town in previous years. A comparison with the averages of the province for the year shows that males with dependents in this town worked 3.1 hours per week and 6.45 days in the year less. Their gross earnings were less by $36.69, and the cost of living was less by $65.15. The cost of living per head, however, exceeded that of the province by $5.74, for the number of dependents is nearly one less than the average of the province.

BRANTFORD.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	22	3.45	2.09	58.95	268.91	512 82	2 04	13 64	528 50	390 20	138 30
	m. o. t.	44	3.34	1.95	58.75	270.07	432 78	3 30	15 23	451 31	386 47	64 84
	Total	66	3.38	2.00	58.82	269.68	459 46	2 88	14 70	477 04	387 71	89 33
	1885-8	...	3.34	2.04	$....	...	.....	....	.. ..	435 91	365 60	70 31
Without dependents.	m. o. b.	43	.....	......	58.74	269.91	315 30	0 35	......	315 65	231 16	84 49
	f. o. b.	7	......	......	50.86	275.71	192 14	....	......	192 14	162 14	30 00
	Total	50	.....	......	57.64	270.72	298 06	0 30	......	298 36	221 50	76 86
	1885-8	....	......	. ...	......	......	......	....	......	265 76	206 93	58 83
All classes..	1888..	116	......	...	58.31	270.13	389 89	1 77	8 36	400 02	316 07	83 95
	1885-8	....	.....	......	58.58	263.51	357 81	3 52	12 43	373 76	307 67	66 09

Returns were received from 116 workers, 66 being males with dependents. They are fairly scattered over the various trades. No collection had been made since 1885. The time employed is almost the average of the province, while the gross earnings are less by $20. The cost of living of males with dependents is less than the provincial average by $35.96 and the surplus greater by $50.21.

BROCKVILLE.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	28	3.39	2.21	63.25	293.36	500 31	1 97	5 50	507 78	400 56	107 22
	m. o. t.	49	3.24	2.18	61.71	275.71	465 18	2 27	4 08	471 53	426 72	44 81
	Total.	77	3.30	2.19	62.27	282.13	477 96	2 15	4 60	484 71	417 21	67 50
	1887..	102	3.29	2.06	61.06	259.30	446 72	13 09	4 07	463 88	408 66	55 22
	1885-8	....	3.70	2.43	......	......	......	......	......	469 88	411 58	58 30
Without dependents.	m. o. b.	42	.....	......	63.16	291.00	448 63	3 93	......	452 56	319 36	133 20
	1887..	82	.....	......	60.10	274.89	370 64	10 24	......	380 88	291 11	89 77
	1885-8	....	......	......	......	......	......	......	......	356 79	251 69	105 10
All classes....	1888..	119	.....	.. ...	62.59	285.26	467 61	2 78	2 97	473 36	382 67	90 69
	1887..	184	......	......	60.63	266.25	412 81	11 82	2 26	426 89	356 27	70 62
	1885-8	....	......	......	60.98	279.62	416 88	8 42	4 12	429 42	354 39	75 03

The averages given above are based upon returns from 119 workers, 102 of whom are males with dependents. The presence of a large number of railway men accounts for the increases observed in time employed both as to hours per week and days in the year, and in the yearly wages. The average surplus of all classes exceeds the annual average reserve by $15.66. Owners earn $36.25 more than tenants, and spend $26.16 less, thus saving $62.41 more than the rent payers.

CARLETON PLACE.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-)
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	19	4.00	2.58	56.21	276.53	373 52	.....	8 42	381 94	378 32	3 62
	m. o. t.	31	4.03	2.68	55.81	282.74	443 73	0 81	20 61	465 15	474 76	-9 61
	m. o. b.	2	1.00	...	56.50	300.50	505 67	......	......	505 67	455 93	49 74
	Total.	52	3.90	2.54	55.98	281.15	420 46	0 48	15 37	436 31	438 80	-2 49
	1887..	54	3.19	2.09	59.89	273.83	411 16	5 05	22 04	438 25	430 10	8 15
	1887-8	....	3·55	2.32	......	......	......	.....	......	437 28	434 45	2 83
Without dependents.	m. o. b.	19	.....	......	55.42	283.42	373 55	2 63	......	376 18	314 80	61 38
	f. o. b..	4	......	......	58.50	263.25	189 13	.. ...	...	189 13	164 50	24 63
	Total.	23	.....	......	55.96	279.91	341 48	2.17	......	343 65	288 66	54 99
	1887..	52	......	......	58.71	268.94	310 03	0 94	... ..	310 97	255 19	55 78
	1887-8	....	. ....	.....	......	......	......	.. ...	......	327 31	271 93	55 38
All classes..	1888..	75	......	.....	55.97	280.77	396 24	1 00	10 65	407 89	392 76	15 13
	1887..	106	......	.....	59.31	271.43	361 55	3 04	11 22	375 81	344 29	31 52
	1887-8	....	......	......	57.69	276.10	378 90	2 02	10 93	391 85	368 53	23 32

Railway men and woollen mill employés comprise the bulk of these returns. Work on short time reduced the hours per week for all classes by 1.72 hour from the annual average. The gross earnings of males with dependents was about the average, while the cost of living increased by $4.35, the result being an average deficit for the year of $2.49.

Tenants have a deficit of $9.61, their total cost of living being $474.76. or $47.70 more than the provincial average of this class of workers. . Owners, although earning $83.21 less than tenants, manage to save on the average $3.62.

CHATHAM.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (–)
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	67	3.63	2.16	60.63	251 48	425 58	20 22	8 34	454 14	406 84	47 30
	m. o. t.	95	3.64	2.27	61.05	250.99	408 23	18 37	4 22	430 82	409 19	21 63
	m. o. b.	1	1.00	.....	60.00	200.00	260 00	.....	.....	260 00	300 00	-40 00
	Total.	163	3.62	2.21	60.93	250.88	414 45	19 02	5 89	439 36	407 55	31 81
	1887..	162	3.77	2.41	60.56	259.54	426 64	18 42	7 18	452 24	400 02	52 22
	1885-8	....	3.51	2.19	......	......	......	.....	......	447 24	398 32	48 92
Without dependents.	m. o. b.	34	.....	....	60.68	270.29	319 12	11 62	......	330 74	247 56	83 18
	f. o. b..	8	......	......	57.88	238.50	156 00	......	......	156 00	149 75	6 25
	Total.	42	......	.....	60.14	264.45	288 05	9 40	......	297 45	228 93	68 52
	1887..	55	......	......	60.24	259.60	295 27	8 44	.. ...	303 71	225 80	77 91
	1885-8	....	.....	......	......	......	......	......	......	321 71	230 28	91 43
All classes..	1888..	205	......	......	60.77	253.66	388 56	17 05	4 68	410 29	370 96	39 33
	1887..	217	......	......	60 48	259 55	393 34	15 89	5 36	414 59	355 86	58 73
	1885-8	....	......	.....	60.59	263.79	395 91	12 36	6 58	414 85	357 01	57 84

The males with dependents constitute about 80 per cent. of the returns tabulated. Nearly all the industries of the town are represented by these returns. The time per week is practically an average, while the time employed for all classes is over 10 days less than the annual average. For males with dependents the gross earnings are less than in 1887 by $12.88 and the cost of living greater by $7.53. The surplus is thus reduced by $20.41, being $31.81 as compared with $52.22 in 1887 and the annual average of $48.92. The extra earnings in this town form over 5 per cent. of the gross earnings, and were about the same for workers with dependents in 1887 and 1888.

COBOURG.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o..	21	3.81	2.48	58.33	284.48	484 24	12 38	1 67	498 29	458 76	39 53
	m. o. t..	33	3.70	2.58	58.33	289.30	496 52	1 36	....	497 88	443 91	53 97
	Total..	54	3.74	2.54	58.33	287.43	491 74	5 65	0 65	498 04	449 69	48 35
Without dependents.	m. o. b..	27	......	.....	58.15	289.30	343 78	......	....	343 78	284 41	59 37
	m. u. b..	9	......	......	58.00	290.33	158 89	......	...	158 89	156 11	2 78
	f. o. b...	5	......	......	58.00	288.00	240 00	......	....	240 00	200 00	40 00
	f. u. b...	7	......	......	58.00	285.00	142 36	... ..	....	142 36	142 36	......
	Total..	48	......	......	58.08	288.73	268 93	......	....	268 93	230 85	38 08
All classes............		102	......	......	58.22	288.04	386 89	2 99	0 34	390 22	346 70	43 52

The above returns are all from the car works, the matting factory and woollen mills. No previous collection had been made in this town. For males with dependents the hours per week is identical with the average for the province, but workers are employed about twenty days longer in the year. Their gross earnings exceed the provincial average by $35.25 and the cost of living is greater by $26.02.

CORNWALL.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o .	13	3.46	2.15	61.46	269.62	337 90	......	16 92	354 82	341 57	13 25
	m. o. t. .	30	2.83	1.70	61.90	251.97	345 63	1 00	25 70	372 33	387 54	-15 21
	f. o. t . .	2	2.00	2.00	60.50	263.00	263 00	....	....	263 00	288 00	-25 00
	Total.	45	2.98	1.84	61.71	257.55	339 72	0 67	22 02	362 41	369 83	- 7 42
	1887. .	37	2.81	1.68	62.57	260.59	360 39	12 70	34 97	408 06	343 54	64 52
	1885-8	....	3.22	2.03	....	......	.....			395 16	364 22	30 94
Without dependents.	m. o. b .	11	..	......	61.91	243.73	346 08	2 27	......	348 35	312 65	35 70
	f. o. b . .	12	......	......	60.25	264.50	230 88	0 42	.....	231 30	193 24	38 06
	Total.	23	......	......	61.04	254.57	285 98	1 30	......	287 28	250 35	36 93
	1887. .	32	......	.....	62.69	269.06	302 82	......	......	302 82	223 06	79 76
	1185-8	....	......	.....	......	......	......	......	......	295 05	236 71	58 34
All classes.	1888. .	68	......	......	61.49	256.54	321 55	0 88	14 57	337 00	329 42	7 58
	1887. .	69	......	.....	62.62	264.52	333 70	6 81	18 75	359 26	287 67	71 59
	1885-8	....	....	......	61.66	265.35	344 85	2 56	23 01	370 42	332 13	38 29

The cotton mills supply the majority of the returns tabulated. The hours per week differ slightly from the annual average, but there is a decrease of 8.81 days in the year. The gross earnings of those with dependents show a decrease from the annual average of $32.75 while the cost of living increased $5.61. The result was an average deficit for the year for this class of $7.42. Owners have an average surplus of $13.25, but male tenants show deficits averaging $15.21, the gross earnings of the latter being $83.19 less and their cost of living $39.52 less than the provincial averages of this class.

GALT.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o .	10	3.80	2.00	58.10	247.80	417 16	11 00	26 20	454 36	377 86	76 50
	m. o. t .	18	3.44	2.33	58.00	277.72	449 28	2 22	10 58	462 08	403 63	58 45
	Total.	28	3.57	2.21	58.04	267.04	437 81	5 35	16 17	459 33	394 43	64 90
	1887. .	31	3.55	1 97	59.61	258.87	429 43	6 94	13 71	450 08	402 18	47 90
	1885-8	....	3.57	2.13	......	......	......	......	......	461 33	402 21	59 12
Without dependents.	m. o. b.	20	......	..	57.95	256.75	340 27	2 00	......	342 27	252 67	89 60
	1887. .	24	.... .	.....	59.29	255.79	367 64	2 85	......	370 49	260 08	110 41
	1885-8	....	......	......	.....	.....	....	......	......	365 39	249 51	115 88
All classes.	1888. .	48	.....	......	58.00	262.75	397 17	3 96	9 42	410 55	335 36	75 19
	1887. .	55	.....	......	59.47	257.53	402 47	5 16	7 73	415 36	340 18	75 18
	1885-8	....	......	......	58.70	267.01	412 56	4 00	11 34	427 90	349 91	77 99

The returns though few for such a thriving town are well distributed as to occupations. For all classes the time per week was 1.47 hour less than in 1887, and .7 hour less than the annual average for this town. The employment for the year was greater than in 1887 by 5·22 days but less than the annual average by 4.26 days. Males with dependents earned with extras $9.25 more than in 1887 but $2 less than the average. The cost of living was nearly $8 less than in 1887 or the annual average. The surplus of all classes was but one cent more than in 1887, and $2.80 below the annual average.

GANANOQUE.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	11	2.82	1.46	58.64	280.00	543 36	24 55	8 18	576 09	424 45	151 64
	m. o. t.	19	3.51	2.21	54.79	261.68	422 29	25 00	14 95	462 24	399 48	62 76
	Total.	30	3.27	1.93	56.20	268.40	466 68	24 83	12 47	503 98	408 63	95 35
	1887..	20	3.35	1.75	58.40	272.20	452 00	17 50	15 50	485 00	401 40	83 60
	1885-8	..	3.54	2.17	.....	....	......		......	477 05	403 53	73 52
Without dependents.	m. o. b.	12	......	.....	57.50	262.67	357 15	5 67	......	362 82	259 88	102 94
	m. u. b.	1	.....	....	60.00	204.00	102 00	.. ...	......	102 00	100 00	2 00
	f. o. b.	5	......	....	55.20	280.20	257 40	....	....	257 40	139 20	118 20
	Total	18	......	......	57.00	264.28	315 26	3 78	....	319 04	217 47	101 57
	1887..	10	......	......	59.00	248.00	348 80	2 50	.....	351 30	257 10	94 20
	1885-8	.	......	......	.....	......	......	....	......	355 63	220 49	135 14
All classes...	1888..	48	.....	......	56.50	266.85	409 90	16 94	7 79	434 63	336 95	97 68
	1887..	30	......	....	58.60	264.13	417 60	12 50	10 33	440 43	353 30	87 13
	1885-8	..	......	......	57.71	268.32	408 49	13 87	8 30	430 66	328 62	102 04

The majority of schedules are from workers in iron. The average week was 2.1 hours shorter than in 1887, while the time employed in the year was 2.72 days greater. The gross earnings of males with dependents was greater than in 1887 by $18.98, and the cost of living was also greater by $7.23. The savings of all classes averaged $10.55 each more than in 1887.

GUELPH.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	55	4.18	2.75	60.07	265.42	454 05	1 82	7 82	463 69	431 22	32 47
	m. o. t.	167	3.64	2.38	60.86	281.70	444 79	2 96	4 95	452 70	430 84	21 86
	Total	222	3.77	2.47	60.67	277.67	447 08	2 68	5 66	455 42	430 93	24 49
	1887..	144	3.91	2.44	56.13	275.42	410 29	5 14	13 65	429 08	395 22	33 86
	1885-8	....	4.07	2.64	......	......	...	....	.....	435 71	404 20	31 51
Without dependents.	m. o. b.	47	......	......	60.32	278.32	336.34	....	......	336 34	248 60	87 74
	m. u. b.	2	.....	......	59.00	295.00	216 00	. ..	......	216 00	174 50	41 50
	f. o. b.	7	.....	...	52.57	279.29	188 29	..	....	188 29	143 14	45 15
	Total.	56	......	.... .	59.30	279.04	313 54	....	......	313 54	232 78	80 76
	1887..	83	......	......	55.95	275.84	272 45	2 37	. ...	274 82	213 35	61 47
	1885-8	....	......	......	.....	.....	......	...	......	312 62	231 54	81 08
All classes...	1888..	278	......	. .. .	60.39	277.94	420 18	2 14	4 52	426 84	391 01	35 83
	1887..	227	......	......	56.06	275.57	359 88	4 13	8 66	372 67	328 72	43 95
	1885-8	....	......	......	57.26	274.68	388 20	4 73	6 60	399 53	354 21	45 32

The canvass of this city has resulted in the return of 278 schedules, about 80 per cent. of which are from males with dependents. A large class of industries are here represented. Over 20 per cent. of the returns are from bakers, barbers, engineers, firemen, hostlers, pedlars, teamsters or drivers and watchmen, in which occupations the hours range from 65 to 72 per week. As a consequence the time per week for all classes exceeded that of 1887 by 4.33 hours, and the annual average by 3.13 hours. The yearly employment was 3.26 days greater than the average. The extras of males with dependents were less than in 1887 by $10.45, yet the gross earnings were greater than the annual average by $19.71, and the cost of living greater by $26.73. The average savings of all classes were $8.12 less than in 1887, and $9.49 less than the annual average.

HAMILTON.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	41	3.76	2.51	55.98	246.80	436 24	4 46	15 61	456 31	435 72	20 59
	m. o. t.	113	3.65	2.45	55.19	229.52	400 36	7 47	9 35	417 18	420 20	-3 02
	Total	154	3.68	2.47	55.40	234.12	409 91	6 66	11 02	427 59	424 33	3 26
	1887..	92	3.88	2.68	57.09	234.87	387 23	6 11	22 35	415 69	421 42	-5 73
	1885-8	....	3.72	2.48	......	......	.....	....	......	434 49	422 59	11 90
Without dependents.	m. o. b.	46	......	.....	56.26	239.22	372 07	1 70	......	373 77	317 70	56 07
	1887..	30	......	......	56.10	242.37	346 26	0 08	....	346 34	285 15	61 19
	1885-8	....	....	......	.....	......		....	......	345 33	284 44	60 89
All classes...	1888..	200	......	.....	55.60	235.30	401 21	5 52	8 48	415 21	399 81	15 40
	1887 .	122	.....	......	56.84	236.71	377 16	4 63	16 85	398 64	387 91	10 73
	1885-8	....	......	......	56.29	233.74	397 41	6 84	10 87	415 12	391 32	23 80

The returns include a few from Dundas, and are fairly divided as to occupations, but the iron industry prevails to a great extent. For all classes the weekly time is 1¼ hour less than in 1887, and the yearly time employed is even less than last year, or nearly 35 days shorter than the provincial average. For males with dependents the gross earnings are greater than in 1887 by $11.90, or less than the annual average by $6.90. The cost of living varies but little from last year or its annual average, and also the provincial average of the year. The margin of savings is, however, very narrow, a surplus of $3.26 being shown as compared with a deficit of $5.73 in 1887. Tenants, however, show an average deficit of $3.02, their earnings being $39.13 less than the income from labor of owners in this city.

KINGSTON.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	16	4.06	2.38	59.13	277.88	435 09	9 37	38 75	483 21	397 26	85 95
	m. o. t.	100	3.37	1.97	59.48	280.67	446 16	7.71	29 07	482 94	393 44	89 50
	Total	116	3.47	2.03	59.43	280.28	444 63	7 94	30 41	482 98	393 97	89 01
	1887..	76	3.93	2.53	58.54	266.01	414 72	19 74	19 41	453 87	407 72	46 15
	1885-8	...	3.72	2.33	......	......	......	......	......	462 10	402 86	59 24
Without dependents.	m. o. b.	57	......	......	59.79	284.58	379 02	2 80	......	381 82	272 23	109 59
	f. o. b..	10	.....	......	58.20	276.00	238 00	.....	......	238 00	176 00	62 00
	Total	67	......	......	59.55	283.30	357 97	2 39	......	360 36	257 87	102 49
	1887..	57	......	......	59.89	268.14	308 51	3 28	......	311 79	282 21	29 58
	1885–8	....	......	.....	......	......	......	......	......	303 99	245 87	58 12
All classes..	1888..	183	......	......	59.47	281.39	412 90	5 91	19 28	438 09	344 14	93 95
	1887..	133	.....	.....	59.12	266.92	369 20	12 69	11 09	392 98	353 93	39 05
	1885-8	....	.... .	......	59.98	279.03	383 75	8 22	11 54	403 51	344 90	58 61

Compared with the averages derived in 1887, the weekly time for males with dependents, has increased by nearly an hour, and the yearly time is 14.27 days longer, but for all classes the annual average yearly employment is exceeded by 2.36 days. The yearly wages of males with dependents exceeds that of last year by $29.91, while the extra income, including wife and minor children's earnings, remains about the same. A decrease of $13.75 occurs in the cost of living, but this is entirely due to the diminished number of dependents, as the rate per head has actually increased by $5.59. The average savings of all classes amounted to $93.95, or 60 per cent. more than the annual average.

LONDON.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	62	3.76	2.42	55.97	275.94	457 88	1 06	14 34	473 28	440 18	33 10
	m. o. t.	117	3.75	2.29	55.78	268.57	411 54	0 94	23 81	436 29	142 97	-6 68
	m. o. b.	4	1.25	.. ...	60.00	267.50	440 00	......	......	440 0	369 50	70 50
	Total	183	3.70	2.28	55.93	271.04	427 86	0 96	20 08	448 90	440 42	8 48
	1887..	113	3.47	2.12	57.27	265.30	404 63	8 88	7 68	421 19	407 56	13 63
	1885-8	....	3.60	2.19	......	. ....	......	......	......	419 79	406 80	12 99
Without dependents.	m. o. b.	43	......	......	57.77	279.05	323 11	....	.....	323 11	239 57	83 54
	f. o. b..	5	....	......	54.00	300.00	293 00	......	...	293 00	222 00	71 00
	Total	48	......	......	57.38	281.23	319 97	......	....	319 97	237 74	82 23
	1887..	39	......	......	57.44	261.82	284 87	0 33	. ....	285 20	242 92	42 28
	1885-8	....	......	......	.....	......	......	......	......	271 77	215 41	56 36
All classes..	1888..	231	......	......	56.23	273.16	405 44	0 76	15 91	422 11	398 30	23 81
	1887.	152	..	......	57.32	264.41	373 90	6 68	5 71	386 29	365 31	20 98
	1885-8	....	......	......	56.61	266.16	355 71	5 97	11 23	372 91	347 51	25 45

The five occupations, blacksmiths, carpenters, machinists, moulders and painters, make up over 40 per cent. of these returns. The weekly time of all classes was less by over an hour than in 1887, while the yearly time employed increased by 8¾ days. For males with dependents the gross earnings increased by $27.71, and the extras by $4.48. The cost of living, however, also increased by $32.86, leaving a surplus for the year of $8.48. Tenants finished the year $6.68 behind, while owners saved $33.10.

OSHAWA.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	11	4.73	3.18	55.36	288.18	580 82	9 09	47 73	637 64	483 27	154 37
	m. o. t.	27	4.19	2.93	57.00	271.26	464 47	8 33	.....	472 80	431 72	41 08
	Total	38	4.34	3.00	56.53	276.16	498 15	8 55	13 82	520 52	446 64	73 88
	1887..	60	3.67	2.13	58.88	262.92	465 59	19 78	8 12	493 49	439 17	54 32
	1885-8	....	3.76	2.41	......	......	......	......	......	438 61	404 88	33 73
Without dependents.	m. o. b.	6	.....	......	59.50	266.50	421 08	....	.....	421 08	313 98	107 10
	1887.	17	......	......	60.23	251.65	353 34	4 00	......	357 34	302 83	54 51
	1885-8	....	....	....	.....	.....	......	......	......	344 77	271 90	72 87
All classes..	1888..	44	......	......	56.93	274.84	487 64	7 39	11 93	506 96	428 55	78 41
	1887..	77	......	......	59.18	260.43	440 80	16 30	6 33	463 43	409 06	54 37
	1885-8	....	......	......	57.91	250.81	408 16	7 32	5 51	420 99	380 10	40 89

The occupations here tabulated are confined to skilled mechanics. All of the class owners are from the Malleable Iron works, while the other classes show a large percentage from the same company. For all classes the weekly time decreased 2¼ hours from 1887, and was an hour less than the annual average. The yearly employment exceeded that of 1887 by 14.41 days, and the annual average time by 24.03 days. The gross earnings of males with dependents show an increase of $27.03 compared with 1887, and an increase of $81.91 compared with the annual average. The cost of living is $41.76 greater than the annual average. The surplus of all classes was nearly double the average.

OTTAWA.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	5	5.40	3.80	59.60	246.60	521 00	.....	....	521 00	497 60	23 40
	m. o. t.	11	4.91	3.73	58.36	228 00	497 16	3 64	4 54	505 34	482 66	22 68
	Total.	16	5 06	3.75	58.75	233.81	504 61	2 50	3 12	510 23	487 33	22 90
	1887..	251	4.35	3.21	63.74	223.10	363 60	11 91	9 74	385 25	385 17	0 08
	1885-8	....	4.48	3.22	......	....	......	......	....	486 50	439 08	47 42
Without dependents.	m. o. b.	4	.....	.....	55.75	271.25	527 63	2 50	....	530 13	345 00	185 13
	1887..	62	......	......	61.71	247.52	285 20	5 92	....	291 12	228 89	62 23
	1885-8	....	......	.....		......	.....	....	....	404 02	288 24	115 78
All classes.	1888..	20	......	......	58.15	241.30	509 21	2 50	2 50	514 21	458 86	55 35
	1887..	313	.....	.....	63.34	227.93	348 07	10 73	7 81	366 61	354 22	12 39
	1885-8	....	......	......	60.58	269.48	444 53	5 07	7 45	457 05	394 37	62 68

No regular collection was made for this city, but schedules were sent by request. No comparison can be drawn with the previous year, when the averages were unduly influenced by the presence of returns of over 100 employés in the lumber trade, in which employment was given for only 190 days. The returns for 1888 consist of bricklayers, stonecutters, stone masons, printers, laborers, etc. The yearly employment is 28.18 days shorter than the annual average and the gross earnings greater by $57.16.

PERTH.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	14	3.93	2.50	60.00	259.14	438 21	.....	....	438 21	410 57	27 64
	m. o. t.	32	3.56	1.81	60.00	262.44	419 63	0 37	2 50	422 50	419 31	3 19
	Total.	46	3.67	2.02	60.00	261.43	425 28	0 26	1 74	427 28	416 65	10 63
Without dependents.	m. o. b.	16	......	......	61.00	253.06	390 06	......	....	390 06	274 56	115 50
All classes.............		62	......	.....	60.26	259.27	416 20	0 19	1 29	417 68	379 99	37 69

Returns were received from this town in a similar manner as those from Ottawa. The chief occupations represented in these returns are 8 blacksmiths, 2 cabinet makers, 2 carriage makers, 10 car builders and repairers, 6 laborers, 5 machinists, 6 painters, 10 plasterers, bricklayers and stone masons, 3 tailors, 2 tinsmiths and 3 shoemakers. The averages derived compare favorably with those of the province.

PETERBOROUGH.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	10	3.60	2.30	58.30	241.00	435 60	8 00	... ..	443 60	364 62	78 98
	m. o. t.	21	4.00	2.71	57.90	238.29	389 17	14 95	14 43	418 55	419 75	-1 20
	m. o. b.	1	1.00	1.00	60.00	280.00	368 00	......	......	368 00	340 00	28 00
	Total.	32	3.78	2.53	58.09	240.44	403 02	12 31	9 47	424 80	400 03	24 77
	1887..	31	3.42	2.03	59.42	269 58	440 40	17 19	25 68	483 27	427 77	55 50
	1885-8	....	3.53	2.28	......	......	......	......	......	477 12	433 16	43 96
Without dependents.	m. o. b.	23	......	......	59.48	274.39	352 04	......	......	352 04	249 02	103 02
	f. o. b.	4	......	......	54.00	300.00	215 63	......	......	215 63	173 50	42 13
	Total.	27	......	... ..	58.67	278.19	331 83	......	......	331 83	237 83	94 00
	1887..	45	......	......	58 80	259.71	291 27	5 55	......	296 82	225 80	71 02
	1885-8	....	......	....	......	......	......	......	......	322 09	248 14	73 95
All classes.	1888..	59	......	......	58.36	257.71	370 44	6 68	5 13	382 25	325 80	56 45
	1887..	76	......	.....	59 05	263.74	352 11	10 30	10 47	372 88	308 18	64 70
	1885-8	....	......	.....	58.90	273.46	384 01	6 69	5 61	396 31	338 10	58 21

The industries of this town are not as well represented as usual. Over 25 per cent. of the returns are from general laborers. Males with dependents were employed 29.14 days less than in 1887, and their gross earnings were less than the annual average by $52.32. The cost of living was less than the average by $33.13, leaving the savings per worker at $24.77, though tenants' expenditures exceeded their incomes by $1.20.

ST. CATHARINES.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	36	3.89	2.56	57.50	254.50	490 93	7 08	6 81	504 82	413 04	91 78
	m. o. b.	90	3.79	2.64	58.61	255.09	441 42	3 03	4 52	448 97	415 03	33 94
	Total	126	3.82	2.62	58.29	254.92	455 57	4 19	5 17	464 93	414 46	50 47
	1887	183	3.77	2.51	61.89	248.31	395 16	8 10	12 25	415 51	410 58	4 93
	1885-8	....	3.70	2.37	......	......	......	....	......	428 54	405 66	22 88
Without dependents.	m. o. b.	30	......	......	57.20	259.93	406 54	0 83	.....	407 37	306 63	100 74
	f. o. b.	4	......	.. ...	57.00	247.75	174 88	....	......	174 88	169 13	5 75
	Total	34	.....	......	57.18	258.50	379 29	0 73	.....	380 02	290 46	89 56
	1887..	129	.... .	......	61.80	235.47	276 62	1 06	......	277 68	252 97	24 71
	1885-8	....	......	......	......	......	......	....	.....	287 03	247 82	39 21
All classes..	1888..	160	......	......	58.06	255.68	439 36	3 46	4 07	446 89	388 11	58 78
	1887..	312	.....	.....	61.85	243.00	346 15	5 19	7 18	358 52	345 41	13 11
	1885-8	....	.....	......	59.98	249.12	366 26	5 16	7 01	378 43	351 28	27 15

In this collection are included a few returns each from Thorold, Merritton, Port Dalhousie and Niagara Falls. Of a total of 160 schedules received for tabulation 126 are from males with dependents. For all classes the weekly time is less than last year by 3.79 hours, while the yearly time shows an increase of 12.68 days. The total earnings per worker with dependents are greater than in 1887 by $49.42 and the cost of living is greater by $3.88. The average savings are $50.47 as compared with $4.93 in 1887.

St. Thomas.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	12	4.08	2.75	64.00	295.67	510 22	10 42	.....	520 64	444 67	75 97
	m. o. t.	12	3.42	1.58	59.00	276.25	434 73	14 33	2 50	451 56	437 65	13 91
	Total	24	3.75	2.17	61.50	285.96	472 47	12 38	1 25	486 10	441 16	44 94
	1885-8	..	3.52	2.17	....	....	....	......	......	471 04	443 22	27 82
Without dependents.	m. o. b.	6	......	......	59.17	278.83	384 97	....	......	384 97	253 61	131 36
	1885-8	..	......	......	......	......	....	.....	.....	393 25	284 27	108 98
All classes..	1888..	30	......	....	61.03	284.53	454 97	9 90	1 00	465 87	403 65	62 22
	1885-8	..	......	......	62.32	275.64	442 06	9 04	1 60	452 70	405 31	47 39

No collection was made in 1887. Compared with the annual average there is a decrease of 1.29 hour in the weekly time and an increase of nearly 9 days in the yearly employment. The average surplus is greater than the average by $14.83.

Smith's Falls.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	5	6.40	4.80	60.00	285.40	517 09	6 50	9 40	532 99	437 88	95 11
	m. o. t.	6	3.17	1.50	59.17	287.83	371 04	10 67	8 33	390 04	369 78	20 26
	Total	11	4.64	3.00	59.55	286.73	437 42	8 77	8 82	455 01	400 73	54 28

The 11 returns of males with families here compiled were received from workers who made private enquiries for schedules. The weekly time is 1.22 hour longer than the provincial average of the same class, and the yearly time is longer by 18.84 days.

Stratford.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o.	63	3.44	1.81	57.97	285.56	491 24	5 24	3 89	500 37	406 70	93 67
	m. o. t.	67	3.40	1.96	60.00	287.22	457 67	4 18	2 09	463 94	412 62	51 32
	Total.	130	3.42	1.88	59.02	286.42	473 94	4 69	2 96	481 59	409 75	71 84
	1887..	136	3.60	2.38	59.94	287.61	469 28	11 36	5 98	486 62	415 06	71 56
	1885-8	....	3.51	2.22	......	......	......	.... .	.....	494 93	414 48	80 45
Without dependents.	m. o. b.	80	......	......	58.18	286.76	355 13	2 44	......	357 57	293 29	64 28
	m. u. b.	8	......	.....	60.00	301.75	124 63	3 12	......	127 75	124 88	2 87
	f. o. b..	26	......	.....	56.19	271.77	239 63	3 08	......	242 71	203 63	39 08
	Total.	114	......	.....	57.85	284.39	312 62	2 63	......	315 25	261 03	54 22
	1887..	108	......	......	59.89	290.77	324 06	1 11	......	325 17	270 26	54 91
	1885-8	...	......	......	......	.....	......	......	....	299 86	240 46	59 40
All classes.	1888..	244	......	......	58.47	285.47	398 56	3 73	1 58	403 87	340 26	63 61
	1887..	244	......	......	59.92	288.98	405 00	6 82	3 33	415 15	350 96	64 19
	1885-8	....	......	......	59.64	290.78	396 90	5 45	3 74	406 09	335 35	70 74

Exactly the same number of returns were collected in this city as in 1887. The chief portion of them are from railway employés. Agricultural and machine works and woollen mills are also well represented. The weekly time of all classes was 1.45 hour less than in 1887, and the yearly employment lasted 3½ days less. The yearly wages from regular occupation of males with dependents was $4.66 more than in 1887, but the extra earnings fell off to such an extent that the gross earnings were less by $5.03. A reduction occurs in the cost of living, however, and the surplus is about the same as last year.

TORONTO.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o .	21	4.10	2.81	54.67	257.48	526 73	2 38	17 62	546 73	505 83	40 90
	m. o. t. .	136	3.86	2.67	54.26	270.65	518 59	0 48	7 43	526 50	502 60	23 90
	f. o. t. . .	1	2.00	1.00	57.00	270.00	202 50	......	......	202 50	264 00	-61 50
	Total.	158	3.88	2.68	54.33	268.89	517 67	0 73	8 74	527 14	501 52	25 62
	1887 . .	321	3.31	2.21	53.40	247.21	454 91	4 16	16 08	475 15	447 11	28 04
	1885-8	....	3.37	2.18	....	......	......	......	......	487 53	466 59	20 94
Without dependents.	m. o. b .	90	......	......	55.58	265.01	387 10	0 52	.....	387 62	313 26	74 36
	f. o. b . .	49	......	......	54.08	278.96	201 49	1 22	......	202 71	192 29	10 42
	f. u. b . .	4	.....	.....	54.50	293.00	124 75	......	......	124 75	135 25	-10 50
	Total .	143	......	.....	55.03	270.57	316 16	0 74	......	316 90	266 82	50 08
	1887 . .	333	......	......	54.13	262.81	285 37	0 08	......	285 45	246 26	39 19
	1885-8	....	......	......	......	......	......	.....	......	314 70	256 86	57 84
All classes.	1888 . .	301	......	......	54.67	269.69	421 94	0 74	4 58	427 26	390 02	37 24
	1887 . .	654	......	......	53.77	254.78	368 59	2 08	7 89	378 56	344 84	33 72
	1885-8	....	......	......	54.94	267.22	395 72	2 60	5 70	404 02	365 97	38 05

The number of schedules used in this compilation is less than one-half that of last year, but, what is more desirable, the number of occupations shown is greater. Still the collection goes far from fully representing the variety of trades to be found in this the chief industrial centre of the province. The average weekly time for all classes was nearly an hour more than in 1887, but it was a little below the annual average. The yearly employment was about 15 days longer than last year and 2.47 days above the annual average. In the case of workers with dependents the yearly time was 21.68 days greater than in 1887, and was one day longer than the provincial average of the same class. The extra earnings were less than in 1887 by $10.77, but the gross earnings were in excess by $51.99. The cost of living shows an increase over last year of $54.41, but is exactly one dollar less per capita owing to the larger number of dependents.

UXBRIDGE.		No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			Total.	Under 16.								
					No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents.	m. o. o .	15	3.87	2.73	59.47	291.33	445 29	......	12 06	457 35	415 69	41 66
	m. o. t .	20	2.65	1.30	61.10	300.40	413 33	......	5 00	418 33	381 63	36 70
	Total	35	3.17	1.91	60.40	296.51	427 03	......	8 03	435 06	396 23	38 83
Without dependents.	m. o. b.	2	......	......	60.00	300.00	420 00	......	......	420 00	304 70	115 30
All classes.		37	......	......	60.38	296.70	426 65	......	7 59	434 24	391 28	42 96

Nearly one-half the returns from Uxbridge are furnished by railway employès and the yearly time exceeds the provincial average by 26.63 days.

AGGREGATES AND AVERAGES FOR THE PROVINCE.—The following table gives by classes of workers the total number collected in the province with the aggregates and averages of weekly time, days employed, yearly earnings, cost of living and amount of savings :

Classes.		No. of returns.	Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
			No.	No.	$	$	$	$	$	$
With dependents.	m. o. o.	579	33,875	155,812	268,055	3,566	5,972	277,593	241,437	36,156
		av.	58.51	269.11	462.96	6.16	10.31	479.43	416.99	62.44
	m. o. t.	1269	73,924	33,272	558,559	6,407	13,088	578,054	541,935	36,119
		av.	58.25	267.35	440.16	5.05	10.31	455.52	427.06	28.46
	m. o. b.	9	528	2,393	3,763	......	.....	3,763	3,390	373
		av.	58.67	265.89	418.15	.....	.....	418.15	376.65	41.50
	f. o. t.	3	178	796	729	......	.....	729	840	-111
		av.	59.33	265.33	242.83	......	......	242.83	280.00	-37.17
Without dependents.	m. o. b.	697	40,774	190,584	255,380	1,291	.....	256,671	195,809	60,862
		av.	58.50	273.43	366.40	1.85	......	368.25	280.93	87.32
	m. u. b.	24	1,420	7,057	3,548	25	......	3,573	3,430	143
		av.	59.17	294.04	147.84	1.04	......	148.88	142.92	5.96
	f. o. b.	160	8,957	44,168	33,986	155	......	34,141	28,807	5,334
		av.	55.98	276.05	212.41	0.97	......	213.38	180.04	33.34
	f. u. b.	11	624	3,167	1,496	......	......	1,496	1,538	-42
		av.	56.73	287.91	135.95	......	......	135.95	139.77	-3.82
All classes.	1888..	2,752	160,280	743,249	1,125,516	11,444	19,060	1,156,020	1,017,186	138,834
		av.	58.24	270.07	408.98	4.16	6.93	420.07	369.62	50.45
	1887..	3,354	196,875	882,805	1,247,254	22,518	24,849	1,294,621	1,144,671	149,950
		av.	58.70	263.21	371.87	6.71	7.41	385.99	341.28	44.71

Of the householders a little over 31 per cent. are owners. Owners are employed nearly two days longer than tenants, and their yearly wages from regular occupation are higher by $22.80. In Carleton Place, Cobourg, Cornwall, Galt and Kingston tenants earn more than owners. For the province the cost of living is $10.07 less for owners than for tenants, but in Brantford, Cobourg, Gananoque, Guelph, Hamilton, Kingston, Oshawa, Ottawa, St. Thomas, Smith's Falls, Toronto and Uxbridge the owner's cost of living exceeds the tenant's. The average earnings of wife and children are identical in the two divisions. The aggregates of earnings other than from regular occupation and of wife and minor children's earnings form 2.64 per cent. of the gross earnings as compared with 3.66 per cent. in 1887. Of the places in which a collection has taken place for two or more years the highest annual average of total earnings of workers with dependents is found at Stratford, $494.93. Toronto gives the second highest, $487.53. The lowest average is in Cornwall, $395.16. In only nine places has an annual average of $450 been exceeded, the cities of Brantford, Guelph, Hamilton, London and St. Catharines coming below this figure. The annual average cost of living is highest in Toronto, $466.59, and lowest in Almonte, $352.96. In comparing the average wages and cost of living for all classes for the two years, we observe that workers with dependents whose earnings and cost of living are larger, form nearly 68 per cent. of the total returns in 1888 against 58 per cent. returned in 1887. This portion therefore unduly affects the average for purposes of comparison, and we must as the next step investigate the relative standing of the sub-classes for the several years.

CLASSES OF WORKERS SUMMARISED BY TOWNS AND CITIES.

In previous tables all the schedules relating to annual statistics of labor have been compiled by classes under each town or city from which they were received. For purposes of general comparison by localities it is desirable to summarise each class of workers, and tables have been so prepared.

MALES WITH DEPENDENTS, OWNERS.—This table gives a statement of the number of returns from males over 16 with dependents who are owners of the houses they occupy; also the average number of dependents, time employed, yearly earnings and cost of living summarised by towns and cities:

Localities.	No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
		Total.	Under 16.								
				No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte	8	3.00	2.00	60.00	273.00	446 83	......	......	446 83	308 38	138 45
Bowmanville	14	2.86	1.86	55.14	267.29	436 07	......	......	436 07	350 00	86 07
Brantford	22	3.45	2.09	58.95	268.91	512 82	2 04	13 64	528 50	390 20	138 30
Brockville	28	3.39	2.21	63.25	293.36	500 31	1 97	5 50	507 78	400 56	107 22
Carleton Place	19	4.00	2.58	56.21	276.53	373 52	......	8 42	381 94	378 32	3 62
Chatham	67	3.63	2.16	60.63	251.48	425 58	20 22	8 34	454 14	406 84	47 30
Cobourg	21	3.81	2.48	58.33	284.48	484 24	12 38	1 67	498 29	458 76	39 53
Cornwall	13	3.46	2.15	61.46	269.62	337 90	......	16 92	354 82	341 57	13 25
Galt	10	3.80	2.00	58.10	247.80	417 16	11 00	26 20	454 36	377 86	76 50
Gananoque	11	2.82	1.46	58.64	280.00	543 36	24 55	8 18	576 09	424 45	151 64
Guelph	55	4.18	2.75	60.07	265.42	454 05	1 82	7 82	463 69	431 22	32 47
Hamilton	41	3.76	2.51	55.98	246.80	436 24	4 46	15 61	456 31	435 72	20 59
Kingston	16	4.06	2.38	59.13	277.88	435 09	9 37	38 75	483 21	397 26	85 95
London	62	3.76	2.42	55.97	275.94	457 88	1 06	14 34	473 28	440 18	33 10
Oshawa	11	4.73	3.18	55.36	288.18	580 82	9 09	47 73	637 64	483 27	154 37
Ottawa	5	5.40	3.80	59.60	246.60	521 00	......	.....	521 00	497 60	23 40
Perth	14	3.93	2.50	60.00	259.14	438 21	... ..	......	438 21	410 57	27 64
Peterborough	10	3.60	2.30	58.30	241.00	435 60	8 00	......	443 60	364 62	78 98
St. Catharines	36	3.89	2.56	57.50	254.50	490 93	7 08	6 81	504 82	413 04	91 78
St. Thomas	12	4.08	2.75	64.00	295.67	510 22	10 42	.. ...	520 64	444 67	75 97
Smith's Falls	5	6.40	4.80	60.00	285.40	517 09	6 50	9 40	532 99	437 88	95 11
Stratford	63	3.44	1.81	57.97	285.56	491 24	5 24	3 89	500 37	406 70	93 67
Toronto	21	4.10	2.81	54.67	257.48	526 73	2 38	17 62	546 73	505 83	40 90
Uxbridge	15	3.87	2.73	59.47	291.33	445 29	......	12 06	457 35	415 69	41 66
The Province.	579	3.77	2.38	58.51	269.11	462 96	6 16	10 31	479 43	416 99	62 44

In this class we find 21 per cent. of the total returns received. Of these nearly one-half are furnished by Chatham, Guelph, Hamilton, London and Stratford. The average weekly time is 60 hours or over in eight places on the list, the highest being recorded at Brockville. Toronto gives the lowest number of hours per week, while in four other places the weekly time is below 56 hours. The longest yearly employment is reported from St. Thomas and the lowest from Peterborough. In eleven places an average of 275 days has been reached, and in four places the average is below 250 days. In ten places the total yearly earnings have exceeded $500, and the range is from $354.82 in Cornwall to $637.64 in Oshawa. In ten places the average cost of living of the province is exceeded, varying from $308.38 in Almonte to $505.83 in Toronto. The smallest surplus is found in Carleton Place and the largest in Oshawa. The owners were not tabulated separately in previous years, hence no comparison is available. The term "owner" is here applicable to householders only. In this sense an owner of other property may be classed as a "tenant" in relation to the house he occupies, but the income from such property is in no wise to be considered as part of his earnings.

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MALES WITH DEPENDENTS, TENANTS.—As in the case of owners, the male tenants are summarised by towns and cities in the following table:

Localities.	No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
		Total.	Under 16.								
				No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte	7	2.43	1.43	61.43	298.86	416 04	6 43	......	422 47	331 43	91 04
Bowmanville ...	24	2.67	1.58	55.29	258.83	411 77	3 38	7 73	422 88	363 43	59 45
Brantford	44	3.34	1.95	58.75	270.07	432 78	3 30	15 23	451 31	386 47	64 84
Brockville	49	3.24	2.18	61.71	275.71	165 18	2 27	4 08	471 53	426 72	44 81
Carleton Place..	31	4.03	2.68	55.81	282.74	443 73	0 81	20 61	465 15	474 76	-9 61
Chatham	95	3.64	2.27	61.05	250.99	408 23	18 37	4 22	430 82	409 19	21 63
Cobourg........	33	3.70	2.58	58.33	289.30	496 52	1 36	......	497 88	443 91	53 97
Cornwall	30	2.83	1.70	61.90	251.97	345 63	1 00	25 70	372 33	387 54	-15 21
Galt	18	3.44	2.33	58.00	277.72	449 28	2 22	10 58	462 08	403 63	58 45
Gananoque.....	19	3.51	2.21	54.79	261.68	422 29	25 00	14 95	462 24	399 48	62 76
Guelph	167	3.64	2.38	60.86	281.70	444 79	2 96	4 95	452 70	430 84	21 86
Hamilton	113	3.65	2.45	55.19	229.52	400 36	7 47	9 35	417 18	420 20	-3 02
Kingston.......	100	3.37	1.97	59.48	280.67	446 16	7 71	29 07	482 94	393 44	89 50
London	117	3.75	2.29	55.78	268.57	411 54	0 94	23 81	436 29	442 97	-6 68
Oshawa	27	4.19	2.93	57.00	271.26	464 47	8 33	......	472 80	431 72	41 08
Ottawa	11	4.91	3.73	58.36	228.00	497 16	3 64	4 54	505 34	482 66	22 68
Perth	32	3.56	1.81	60.00	262.44	419 63	0 37	2 50	422 50	419 31	3 19
Peterborough...	21	4.00	2.71	57.90	238.29	389 17	14 95	14 43	418 55	419 75	-1 20
St. Catharines .	90	3.79	2.64	58.61	255.09	441 42	3 03	4 52	448 97	415 03	33 94
St. Thomas.....	12	3.42	1.58	59.00	276.25	434 73	14 33	2 50	451 56	437 65	13 91
Smith's Falls ...	6	3.17	1.50	59.17	287.83	371 04	10 67	8 33	390 04	369 78	20 26
Stratford	67	3.40	1.96	60.00	287.22	457 67	4 18	2 09	463 94	412 62	51 32
Toronto	136	3.86	2.67	54.26	270.65	518 59	0 48	7 43	526 50	502 60	23 90
Uxbridge	20	2.65	1.30	61.10	300.40	413 33	......	5 00	418 33	381 63	36 70
The Province.	1269	3.59	2.30	58 25	267.35	440 16	5 05	10 31	455 52	427 06	28 46

In this class we find 1,269, or 46 per cent. of the total returns. The average weekly time in six places exceeds 60 hours, and in six others it is under 56 hours. In three places the average yearly employment is below 240 days, and in eight places an average of 280 days has been exceeded. In total earnings two places average below $400 and two over $500. Toronto is highest with an average of $526.50, and Cornwall lowest at $372.33. The cost of living is also highest in Toronto, due mainly to the item of rent.

In Carleton Place, Cornwall, Hamilton, London and Peterborough the cost of living exceeds the total earnings. No comparison is possible with previous years.

OTHER WORKERS WITH DEPENDENTS.—Returns from other workers with dependents consist of 9 males who board and 3 females who are tenants. The number is too small to draw any special attention to them, but the averages are given in the table below :

Localities.	No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
		Total.	Under 16.								
Males, boarders:				No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Bowmanville....	1	1.00	......	55.00	242.00	364 00	....	......	364 00	360 00	4 00
Carleton Place..	2	1.00	......	56.50	300.50	505 67	....	......	505 67	455 93	49 74
Chatham	1	1.00	......	60 00	200.00	260 00	....	......	260 00	300 00	-40 00
London	4	1.25	......	60.00	267.50	440 00	....	......	440 00	369 50	70 50
Peterborough...	1	1.00	1.00	60.00	280.00	368 00	....	......	368 00	340 00	28 00
Total.......	9	1.11	0.11	58.67	265.89	418 15	....	......	418 15	376 65	41 50
Females, tenants:											
Cornwall.......	2	2.00	2.00	60.50	263.00	263 00	....	.....	263.00	288 00	-25 00
Toronto	1	2.00	1.00	57.00	270.00	202 50	....	......	202 50	264 00	-61 50
Total. 1888..	3	2.00	1.67	59.33	265.33	242 83	....	......	242 83	280 00	-37 17
Total. 1884·8	...	1.92	1.03	57.77	274.33	226 00	3 94	6 86	236 80	243 82	-7 02

TOTAL MALES WITH DEPENDENTS.—In the following table all the males with dependents have been grouped for the province for purposes of comparison with similar figures for the preceding four years :

Males with dependents.	No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
		Total.	Under 16.								
				No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Owners	579	3.77	2.38	58.51	269.11	462 96	6 16	10 31	479 43	416 99	62 44
Tenants.	1269	3.59	2.30	58.25	267.35	440 16	5 05	10 31	455 52	427 06	28 46
Boarders	9	1.11	0.11	58.67	265.89	418 15	......	... ..	418 15	376 65	41 50
Total. 1888..	1857	3.64	2.31	58.33	267.89	447 16	5 37	10 26	462 79	423 67	39 12
Total. 1887..	....	3.64	2.39	58.96	257.73	426 75	10 09	12 77	449 61	412 80	36 81
Total. 1886..	....	3.65	2.32	58.34	270.82	427 93	9 43	14 40	451 76	414 01	37 75
Total. 1885..	....	3.57	2.29	58.76	268.42	427 89	9 05	15 31	452 25	405 08	47 17
Total. 1884..	....	3.37	......	59.05	263.42	420 40	5 55	10 34	436 29	394 29	42 00
Total. 1884-8	....	3.57	2.33	58.69	265.66	430 02	7 90	12 62	450 54	409 97	40 57

The number of dependents is the same as derived last year and a slight increase over the annual average. The weekly time was lower than in 1887 and also lower than the annual average, while the yearly employment was over 10 days longer than in 1887 and 2.23 days longer than the annual average. The yearly wages show an increase over 1887 of $20.41, and the extras a decrease of $7.23, but the total earnings were $12.25 in excess of the annual average. With the exception of 1887 the cost of living has steadily increased year after year, so that in 1888 it exceeded the annual average by $13.70. The savings, though more than in 1887, were a little less than the average. It will also be seen that the total earnings of males with dependents, less earnings of wife and minor children, exceed those of males over 16 without dependents by $84.28, or by $90.15 in the annual averages.

TOTAL WORKERS WITH DEPENDENTS.—The number of workers given in the following table differs from the preceding table by the addition of 3 females, and the summary goes further by giving a comparison by towns and cities :

Localities.	No. of returns.	No. of dependents.		Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus or deficit (-).
		Total.	Under 16.								
				No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte	15	2.73	1.73	60.67	285.07	432 46	3 00	......	435 46	319 13	116 33
Bowmanville	39	2.69	1.64	55.23	261.44	419 27	2 08	4 75	426 10	358 52	67 58
Brantford	66	3.38	2.00	58.82	269.68	459 46	2 88	14 70	477 04	387 71	89 33
Brockville	77	3.30	2.19	62.27	282.13	477 96	2 15	4 60	484 71	417 21	67 50
Carleton Place...	52	3.90	2.54	55.98	281.15	420 46	0 48	15 37	436 31	438 80	-2 49
Chatham	163	3.62	2.21	60.93	250.88	414 45	19 02	5 89	439 36	407 55	31 81
Cobourg	54	3.74	2.54	58.33	287.43	491 74	5 65	0 65	498 04	449 69	48 35
Cornwall	45	2.98	1.84	61.71	257.55	339 72	0 67	22 02	362 41	369 83	-7 42
Galt	28	3.57	2.21	58.04	267.04	437 81	5 35	16 17	459 33	394 43	64 90
Gananoque	30	3.27	1.93	56.20	268.40	466 68	24 83	12 47	503 98	408 63	95 35
Guelph..........	222	3.77	2.47	60.67	277.67	447 08	2 68	5 66	455 42	430 93	24 49
Hamilton	154	3.68	2.47	55.40	234.12	409 91	6 66	11 02	427 59	424 33	3 26
Kingston........	116	3.47	2.03	59.43	280.28	444 63	7 94	30 41	482 98	393 97	89 01
London	183	3.70	2.28	55.93	271.04	427 86	0 96	20 08	448 90	440 42	8 48
Oshawa	38	4.34	3.00	56.53	276.16	498 15	8 55	13 82	520 52	446 64	73 88
Ottawa....... ..	16	5.06	3.75	58.75	233.81	504 61	2 50	3 12	510 23	487 33	22 90
Perth	46	3.67	2.02	60.00	261.43	425 28	0 26	1 74	427 28	416 65	10 63
Peterborough....	32	3.78	2.53	58.09	240.44	403 02	12 31	9 47	424 80	400 03	24 77
St. Catharines...	126	3.82	2.62	58.29	254.92	455 57	4 19	5 17	464 93	414 46	50 47
St. Thomas......	24	3.75	2.17	61.50	285.96	472 47	12 38	1 25	486 10	441 16	44 94
Smith's Falls....	11	4.64	3.00	59.55	286.73	437 42	8 77	8 82	455 01	400 73	54 28
Stratford	130	3.42	1.88	59.02	286.42	473 94	4 69	2 96	481 59	409 75	71 84
Toronto	158	3.88	2.68	54.33	268.89	517 67	0 73	8 74	527 14	501 52	25 62
Uxbridge	35	3.17	1.91	60.40	296.51	427 03	......	8 03	435 06	396 23	38 83
The Province. 1888..	1860	3.63	2.31	58.34	267.89	446 83	5 36	10 25	462 44	423 44	39 00
1887..	....	3.63	2.37	58.95	258.02	425 24	10 10	12 74	448 08	411 74	36 34
1886 .	....	3.64	2.31	58.31	270.84	426 15	9 42	14 43	450 00	412 34	37 66
1885..	....	3.54	2.26	58.74	268.76	423 68	8 89	15 03	447 60	401 17	46 43
1884..	....	3.34	......	59.03	263.22	415 23	5 45	10 27	430 95	390 28	40 67
1884-8	....	3.56	2.31	58.67	265.75	427 43	7 84	12 54	447 81	407 79	40 02

Over two-thirds of these returns are supplied by Chatham, Guelph, Hamilton, Kingston, London, St. Catharines, Stratford and Toronto. The number of dependents ranges from 2.69 in Bowmanville to 5.06 in Ottawa. Ottawa, Hamilton and Peterborough give the east number of days employment, while in Almonte, Cobourg, St. Thomas, Smith's Falls, Stratford and Uxbridge the averages exceed 285 days. The average total earnings for the province is exceeded in 11 towns and cities. Toronto's average is $64.70 above, and that of Cornwall is over $100 below the average of the province. The cost of living varies considerably, as much depends upon the average number of persons in the family. Carleton Place and Cornwall show deficits of $2.49 and $7.42 respectively for the year, while the average savings are but $3.26 in Hamilton, $8.48 in London and $10.63 in Perth.

MALES OVER 16 WITHOUT DEPENDENTS.—In the following table the statistics of males over 16 without dependents are exhibited by towns and cities; the cost of clothing and of board and lodging are also given, as well as the figures for the province for the five years 1884–8:

Localities.	No. of returns.	Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Total earnings.	Cost of clothing.	Cost of board and lodging.	Total cost of living.	Surplus.
		No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte	25	60.88	304.04	380 44	......	380 44	60 83	153 00	256 08	124 36
Bowmanville	14	55.67	255.71	382 07	1 29	383 36	71 92	150 86	276 93	106 43
Brantford	43	58.74	269.91	315 30	0 35	315 65	66 74	158 30	231 16	84 49
Brockville	42	63.16	291.00	448 63	3 93	452 56	88 15	189 95	319 36	133 20
Carleton Place	19	55.42	283.42	373 55	2 63	376 18	55 26	167 79	314 80	61 38
Chatham	34	60.68	270.29	319 12	11 62	330 74	58 75	153 00	247 56	83 18
Cobourg	27	58.15	289.30	343 78	......	343 78	96 30	128 00	284 41	59 37
Cornwall	11	61.91	243.73	346 08	2 27	348 35	78 63	171 00	312 65	35 70
Galt	20	57.95	256.75	340 27	2 00	342 27	44 17	159 25	252 67	89 60
Gananoque	12	57.50	262.67	357 15	5 67	362 82	64 17	143 17	259 88	102 94
Guelph	47	60.32	278.32	336 34	......	336 34	50 06	155 17	248 60	87 74
Hamilton	46	56.26	239.22	372 07	1 70	373 77	58 86	183 19	317 70	56 07
Kingston	57	59.79	284.58	379 02	2 80	381 82	66 73	166 30	272 23	109 59
London	43	57.77	279.05	323 11	.....	323 11	59 57	153 16	239 57	83 54
Oshawa	6	59.50	266.50	421 08	.....	421 08	78 33	166 67	313 98	107 10
Ottawa	4	55.75	271.25	527 63	2 50	530 13	42 83	215 50	345 00	185 13
Perth	16	61.00	253.06	390 06	.....	390 06	65 06	152 69	274 56	115 50
Peterborough	23	59.48	274.39	352 04	......	352 04	72 00	151 91	249 02	103 02
St. Catharines	30	57.20	259.93	406 54	0 83	407 37	54 90	200 47	306 63	100 74
St. Thomas	6	59.17	278.83	384 97	.....	384 97	40 00	143 33	253 61	131 36
Stratford	80	58.18	286.76	355 13	2 44	357 57	66 29	157 85	293 29	64 28
Toronto	90	55.58	265.01	387 10	0 52	387 62	56 44	199 86	313 26	74 36
Uxbridge	2	60.00	300.00	420 00	.....	420 00	67 50	182 00	304 70	115 30
The Province 1888	697	58.50	273.43	366 40	1 85	368 25	64 11	168 17	280 93	87 32
The Province 1887	......	58.79	266.84	330 15	2 64	332 79	53 72	170 25	264 98	67 81
The Province 1886	......	57.92	268.65	345 05	5 32	350 37	......	....	268 71	81 66
The Province 1885	......	59.39	272.97	349 02	4 30	353 32	......	....	259 91	93 41
The Province 1884	....	59.05	269.32	331 29	2 83	334 12	......	....	252 27	81 85
The Province 1884–8	.....	58.73	270.24	344 38	3 39	347 77	......	....	265 36	82 41

This class furnishes over 25 per cent. of the total returns. The weekly time is not much different from that of the males with dependents, but the yearly time is 5½ days longer

The total earnings exceeded last year by $35.46, and the annual average by $20.48. The cost of clothing increased $10.39, while a small reduction took place in the cost of board and lodging. The total cost of living was $15.95 higher than in 1887, which was about an average year. Substantial surpluses are reported in every town and city, the provincial average being nearly $20 greater than in 1887.

OTHER WORKERS WITHOUT DEPENDENTS.—The returns from the remaining classes are even fewer than in any previous collection; one-half this number are tailoresses and employés of cotton and woollen mills. The averages derived as presented in the following table show considerable diversion:

Localities.	No. of returns.	Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Total earnings.	Cost of clothing.	Cost of board and lodging.	Total cost of living.	Surplus.
Females over 16:		No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte	14	60.00	294.36	182 16	0 71	182 87	39 43	79 36	131 57	51 30
Brantford	7	50.86	275.71	192 14	......	192 14	35 00	102 29	162 14	30 00
Carleton Place....	4	58.50	263.25	189 13	.....	189 13	33 75	105 00	164 50	24 63
Chatham	8	57.88	238.50	156 00	..... .	156 00	......	....	149 75	6 25
Cobourg..........	5	58.00	288.00	240 00	......	240 00	......	....	200 00	40 00
Cornwall	12	60.25	264.50	230 88	0 42	231 30	45 06	114 40	193 24	38 06
Gananoque	5	55.20	280.20	257 40	......	257 40	33 00	101 00	139 20	118 20
Guelph...........	7	52.57	279.29	188 29	......	188 29	35 71	97 14	143 14	45 15
Kingston.........	10	58.20	276.00	238 00	......	238 00	40 00	112 40	176 00	62 00
London	5	54.00	300.00	293 00	......	293 00	53 00	134 00	222 00	71 00
Peterborough	4	54.00	300.00	215 63	......	215 63	73 75	93 50	173 50	42 13
St. Catharines	4	57.00	247.75	174 88	......	174 88	38 75	120 75	169 13	5 75
Stratford	26	56.19	271.77	239 63	3 08	242 71	40 00	118 00	203 63	39 08
Toronto	49	54.08	278.96	201 49	1 22	202 71	42 21	135 77	192 29	10 42
The Province. 1888..	160	55.98	276.05	212 41	0 97	213 38	41 97	116 75	180 04	33 34
1887..	......	57.22	280.29	212 61	0 16	212 77	41 91	126 11	184 74	28 03
1886..	......	57.30	272.17	186 75	3 25	190 00	.....	....	158 45	31 55
1885..	......	57.98	283.03	181 06	1 37	182 43	......	....	155 91	26 52
1884..	......	59.65	266.24	177 49	0 33	177 82	......	....	166 34	11 48
1884-8	......	57.63	275.56	194 06	1 22	195 28	......	....	169 10	26 18
Females under 16:										
Cobourg	7	58.00	285.00	142 36	.....	142 36	......	....	142 36	.. ..
Toronto	4	54.50	293.00	124 75	......	124 75	28 50	106 75	135 25	-10 50
The Province. 1888..	11	56.73	287.91	135 95	.....	135 95	28 50	106 75	139 77	-3 82
1887..	......	55.30	273.10	91 90	......	91 90	23 88	85 43	110 50	-18 60
1886..	......	59.56	285.00	131 25	......	131 25	......	....	130 69	0 56
1885..	......	57.14	265.59	126 80	......	126 80	......	....	117 64	9 16
1884..	......	60 46	267.69	97 15	......	97 15	......	....	107 92	-10 77
1884-8	......	57 84	275.86	116 61	... ..	116 61	......	....	121 30	-4 69
Males under 16:										
Almonte	4	60.00	309.00	146 77	......	146 77	21 25	123 00	144 26	2 51
Cobourg..........	9	53.00	290.33	158 89	......	158 89	......	.. ..	156 11	2 78
Gananoque	1	60.00	204.00	102 00	......	102 00	40 00	60 00	100 00	2 00
Guelph...........	2	59.00	295.00	216 00	.... .	216 00	42 50	122 00	174 50	41 50
Stratford	8	60.00	301.75	124 63	3 12	127 75	20 00	100 00	124 88	2 87
The Province. 1888..	24	59.17	294.04	147 84	1 04	148 88	26 36	108 73	142 92	5 96
1887..	......	56 44	287.93	150 51	......	150 51	32 91	....	158 05	-7 54
1886..	......	57.90	267.29	119 52	0 72	120 24	......	....	117 95	2 29
1885..	... ..	59.29	273.14	129 46	0 50	129 96	......	....	121 83	8 13
1884..	......	62.00	287.73	133 09	0 45	133 54	......	....	138 91	-5 37
1884-8	......	58.96	282.03	136 08	0 54	136 62	......	....	135 93	0 69

The weekly time is somewhat shorter than the previous classes discussed, but the employment is more constant throughout the year. Wages and cost of living have been higher than the annual average, and in the case of the females under 16 there is a deficit at the end of the year. Of the 24 towns and cities in which a collection was made, ten fail to furnish any schedules from females over 16, while only two give statistics of females under 16 and five give reports of males under 16.

TOTAL WORKERS WITHOUT DEPENDENTS.—In the next table all workers without dependents are collected and the averages deduced are compared with previous years:

Localities.	No. of returns.	Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Total earnings.	Cost of clothing.	Cost of board and lodging.	Total cost of living.	Surplus.
		No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte........	43	60.51	301.35	294 15	0 23	294 38	49 93	125 60	205 14	89 24
Bowmanville....	14	55.07	255.71	382 07	1 29	383 36	71 92	150 86	276 93	106 43
Brantford.......	50	57.64	270.72	298 06	0 30	298 36	64 82	148 50	221 50	76 86
Brockville	42	63.16	291.00	448 63	3 93	452 56	88 15	189 95	319 36	133 20
Carleton Place...	23	55.96	279.91	341 48	2 17	343 65	51 52	156 87	288 66	54 99
Chatham	42	60.14	264.45	288 05	9 40	297 45	58 75	153 00	228 93	68 52
Cobourg.........	48	58.08	288.73	268 93	......	268 93	96 30	128 00	230 85	38 08
Cornwall........	23	61.04	254.57	285 98	1 30	287 28	59 98	142 70	250 35	36 93
Galt	20	57.95	256.75	340 27	2 00	342 27	44 17	159 25	252 67	89 60
Gananoque......	18	57.00	264.28	315 26	3 78	319 04	54 17	126 83	217 47	101 57
Guelph....	56	59.30	279.04	313 54	......	313 54	48 00	146 58	232 78	80 76
Hamilton	46	56.26	239.22	372 07	1 70	373 77	58 86	183 19	317 70	56 07
Kingston........	67	59.55	283.30	357 97	2 39	360 36	62 12	157 75	257 87	102 49
London	48	57.38	281.23	319 97	......	319 97	58 87	151 17	237 74	82 23
Oshawa	6	59.50	266.50	421 08	......	421 08	78 33	166 67	313 98	107 10
Ottawa..........	4	55.75	271.25	527 63	2 50	530 13	42 83	215 50	345 00	185 13
Perth	16	61.00	253.06	390 06	......	390 06	65 06	152 69	274 56	115 50
Peterborough....	27	58.67	278.19	331 83	......	331 83	72 26	143 26	237 83	94 00
St. Catharines...	34	57.18	258.50	379 29	0 73	380 02	53 00	191 09	290 46	89 56
St. Thomas.	6	59.17	278.83	384 97	......	384 97	40 00	143 33	253 61	131 36
Stratford........	114	57.85	284.39	312 62	2 63	315 25	59 79	149 58	261 03	54 22
Toronto...... ...	143	55.03	270.57	316 16	0 74	316 90	50 45	174 40	266 82	50 08
Uxbridge......	2	60.00	300.00	420 00	......	420 00	67 50	182 00	304 70	115 30
The Province. 1888..	892	58.04	274.64	330 05	1 65	331 70	59 59	158 32	257 38	74 32
1887..	....	58.35	270.43	297 65	2 01	299 66	51 00	162 62	243 31	56 35
1886..	....	57.81	269.65	302 51	4 69	307 20	64 85	159 30	239 40	67 80
1885..	...	59.01	275.21	294 13	3 33	297 46	55 09	.. ..	225 71	71 75
1884..	....	59.23	268.81	291 98	2 22	294 20	......	....	230 11	64 09
1884-8	....	58.49	271.75	303 26	2 78	306 04	57 63	160 08	239 18	66 86

These averages are greatly affected by the proportion of the sub-classes composing the aggregate. The total earnings range from $268.93 in Oobourg, where all classes are represented in the returns, to $530.13 in Ottawa, where the returns are wholly from males over 16, and these from the highest paid occupations.

ALL CLASSES OF WORKERS.—The statistics of all classes relating to time employed, wages and cost of living are presented in the following table :

Localities.		No. of returns.	Hours employed per week.	Days employed in year.	Yearly wages.	Extra earnings.	Wife and minor children's earnings.	Total earnings.	Cost of living.	Surplus.
			No.	No.	$ c.	$ c.	c.	$ c.	$ c.	$ c.
Almonte		58	60.55	297.14	329 92	0 95	.....	330 87	234 62	96 25
Bowmanville		53	55.19	259.92	409 44	1 87	3 50	414 81	336 97	77 84
Brantford		116	58.31	270.13	389 89	1 77	8 36	400 02	316 07	83 95
Brockville		119	62.59	285.26	467 61	2 78	2 97	473 36	382 67	90 69
Carleton Place		75	55.97	280.77	396 24	1 00	10 65	407 89	392 76	15 13
Chatham		205	60.77	253.66	388 56	17 05	4 68	410 29	370 96	39 33
Cobourg		102	58.22	288.04	386 89	2 99	0 34	390 22	346 70	43 52
Cornwall		68	61.49	256.54	321 55	0 88	14 57	337 00	329 42	7 58
Galt		48	58.00	262.75	397 17	3 96	9 42	410 55	335 36	75 19
Gananoque		48	56.50	266.85	409 90	16 94	7 79	434 63	336 95	97 68
Guelph		278	60.39	277.94	420 18	2 14	4 52	426 84	391 01	35 83
Hamilton		200	55.60	235.30	401 21	5 52	8 48	415 21	399 81	15 40
Kingston		183	59.47	281.39	412 90	5 91	19 28	438 09	344 14	93 95
London		231	56.23	273.16	405 44	0 76	15 91	422 11	398 30	23 81
Oshawa		44	56.93	274.84	487 64	7 39	11 93	506 96	428 55	78 41
Ottawa		20	58.15	241.30	509 21	2 50	2 50	514 21	458 86	55 35
Perth		62	60.26	259.27	416 20	0 19	1 29	417 68	379 99	37 69
Peterborough		59	58.36	257.71	370 44	6 68	5 13	382 25	325 80	56 45
St. Catharines		160	58.06	255.68	439 36	3 46	4 07	446 89	388 11	58 78
St. Thomas		30	61.03	284.53	454 97	9 90	1 00	465 87	403 65	62 22
Smith's Falls		11	59.55	286.73	437 42	8 77	8 82	455 01	400 73	54 28
Stratford		244	58.47	285.47	398 56	3 73	1 58	403 87	340 26	63 61
Toronto		301	54.67	269.69	421 94	0 74	4 58	427 26	390 02	37 24
Uxbridge		37	60.38	296.70	426 65	......	7 59	434 24	391 28	42 96
The Province	1888	2752	58.24	270.07	408 98	4 16	6 93	420 07	369 62	50 45
	1887	....	58 70	263.21	371 87	6 71	7 41	385 99	341 28	44 71
	1886	....	58.13	270 41	381 83	7 72	9 26	398 81	350 36	48 45
	1885	....	58.85	271.28	372 98	6 72	9 15	388 85	332 50	56 35
	1884	....	59.10	265.17	372 29	4 33	6 69	383 31	334 47	48 84
	1884-8	....	58.60	268.03	381 59	5 93	7 89	395 41	345 65	49 76

We find for all classes that the working hours have decreased while number of days employed has increased. The employment averages 6.86 days longer than in 1887 and 2 days more than the annual average. Almonte and Uxbridge report the most constant employment, while of the ten cities in our collection, Hamilton, Ottawa, St. Catharines and Toronto fall below the average for the province. The same difficulty of disproportion of classes makes a comparison of wages and cost of living of little value. Even the several classes depend upon the occupation represented and these again upon the experience of the worker. In Bowmanville, Brockville, Galt, Hamilton, Oshawa, Ottawa, Perth, St. Thomas, Smith's Falls, and Uxbridge the returns are all from males over 16.

TOTAL MALE WORKERS OVER 16.—In the following table the statistics are given of time employed and wages earned for all males over 16 with and without dependents. The comparison is given by localities and the relation between an average week and a full week is also shown :

Localities.	No. of returns.	Per cent. of total returns.	Average hours per week in year when employed.	Days employed in year at regular occupation.	Yearly wages from regular occupation.	Extra earnings.	Average weekly wages derived for the year.		Wages for a full week as given in Schedule A.
							When employed.	Over the whole year.	
			No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte	40	69	60.80	300.05	399 95	1 12	8 00	7 66	8 07
Bowmanville	53	100	55.19	259.92	409 44	1 87	9 45	7 88	9 87
Brantford	109	94	59.04	269.77	402 59	1 88	8 96	7 75	8 99
Brockville	119	100	62.59	285.26	467 61	2 78	9 83	9 02	10 66
Carleton Place	71	95	55.83	281.76	407 90	1 06	8 35	7 84	8 57
Chatham	197	96	60.88	254.27	398 00	17 74	9 39	7 97	9 65
Cobourg	81	79	58.27	288.05	442 42	3 77	9 22	8 55	9 13
Cornwall	54	82	61.75	254.84	340 97	0 86	8 03	6 55	8 43
Galt	48	100	58.00	262.75	397 17	3 96	9 07	7 69	9 33
Gananoque	42	88	56.57	266.76	435 39	19 36	9 79	8 92	9 74
Guelph	269	97	60.61	277.78	427 73	2 21	9 24	8 24	9 74
Hamilton	200	100	55.60	235.30	401 21	5 52	10 23	7 80	10 31
Kingston	173	95	59.55	281.12	423 13	6 25	9 03	8 23	9 10
London	226	98	56.24	272.57	407 93	7 78	8 98	7 97	9 18
Oshawa	44	100	56.93	274.84	487 64	7 39	10 28	9 49	10 85
Ottawa	20	100	58.15	241.30	509 21	2 50	12 66	9 81	13 38
Perth	62	100	60.26	259.27	416 20	0 19	9 63	7 98	9 87
Peterborough	55	93	58.67	254.64	381 70	7 17	8 99	7 45	9 14
St. Catharines	156	98	58.08	255.88	446 14	3 54	10 46	8 62	10 69
St. Thomas	30	100	61.03	284.53	454 97	9 90	9 59	8 91	9 82
Smith's Falls	11	100	59.55	286.73	437 42	8 77	9 15	8 55	9 32
Stratford	210	86	58.70	286.55	428 68	3 83	8 98	8 29	9 39
Toronto	247	82	54.79	267.48	474 72	0 65	10 65	9 11	11 20
Uxbridge	37	100	60.38	296.70	426 65	......	8 63	8 18	8 52
The Province... 1888..	2,554	93	58.38	269.41	425 12	4 41	9 47	8 23	9 77
1887..	2,981	89	58.90	260.93	392 82	7 47	9 03	7 67	9 18
1886..	2,424	90	58.21	270.18	403 38	8 22	8 96	7 89	9 09
1885..	2,295	87	58.95	269.89	403 18	7 56	8 97	7 87	9 00
1884..	2,565	90	59.05	265.14	394 34	4 76	8 92	7 63	.....
1884-8	2,564	90	58 70	267.11	403 77	6 48	9 07	7 86	....

This class of workers forms 93 per cent. of the total returns, against 89 per cent. in 1887. The working time is over half an hour per week shorter and 8½ days in the year longer than in 1887. The yearly wages increased by $32.30 compared with 1887, and by $21.35 compared with the annual average. The extra earnings outside of regular occupation, which does not here include earnings of wife or minor children, are lower than in any other year of the five, and are $2.07 less than the average. The total earnings of the worker himself including extras are equal to $8.23 per week spread over the whole year of 313 days This is equal to $8.67 per worker with dependents and $7.06 per workman without dependents. The average shows an increase of 56 cents over 1887, due conjointly to an advance in the rate of wages and to the longer period of employment. In the same way the average time actually employed would be equivalent to a full year's work at 50¼ hours per week or 50 hours for the five years. The average weekly wages for the year *when employed* were $9.47 from regular occupation. These figures are lower than given in our tables of weekly statistics from employés by 30 cents, and by 15 cents in 1887. This divergence might have been expected for two reasons. First, the weekly statistics were compiled for a *full* week as called for in Schedule A, and would naturally be higher than an average week. Secondly, in our classification of this class of workers by a series of wage ranges, we have shown that on the average for the province those who earn the highest wages receive the least employment, and therefore the tendency is to reduce the average week. The average week has been taken as six days. In some localities, notably Brockville and Stratford, the deviation between the two averages is more marked. In these places the average week is more than six days owing to a number of returns from railroad men who are employed on Sundays. The wages of the average week are 44 cents greater than in 1887, and 40 cents or about three-quarters of a cent per hour greater than the average for five years. In treating of a full week's statistics, however, we found that workers in this class with dependents earned exactly two dollars more than those without dependents, and that therefore the proportion in which these two divisions were represented had a marked effect on a combined average. The weekly statistics were not tabulated separately for the two divisions in previous years, hence no comparison was available. The distinction had, however, been drawn in the yearly statistics, and thus by means of an average week derived therefrom we can institute comparisons as follows :

Males over 16.	Full week, 1888.	Average week derived from yearly statistics.					
		1888.	1887.	1886.	1885.	1884.	1884-8.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents ...	10 32	10 01	9 93	9 48	9 56	9 64	9 71
Without dependents ...	8 32	8 04	7 42	7 76	7 67	7 38	7 64
Total............	9 77	9 47	9 03	8 96	8 97	8 92	9 07

The difference between the wages of an average and full week is about the same in the two divisions for 1888. Workers without dependents show the greatest variations from year to year, owing partly to the more varied representation of occupations. They earn 62 cents per week more than in 1887 and 40 cents above the annual average. Those with dependents show an increase of but 8 cents per week over 1887 and 30 cents above the average. Wages reached their lowest point with this class in 1886, the years on either side forming an ascending scale. The average wages throughout the five years are equal to $1.51 per day when working, or $1.31 for every day in the year. Males with dependents, when employed, average $1.62 per, day and males over 16 without dependents earn $1.27½ per day.

ANALYSIS OF COST OF LIVING.

RENT, FUEL, CLOTHING AND FOOD. –The following table treats of the chief components of the cost of living, and is confined to the classes of workers with dependents. Rent is compiled from returns of tenants only, and fuel from all householders. In the cost of clothing and food per capita and of total cost of living a distinction is drawn between owners and tenants. These averages are given by towns and cities and for the province for the four years 1885-8:

Localities.	Rent.	Fuel.	Clothing per capita.			Food per capita.			Cost of living per capita.		
			Owner.	Tenant.	Average.	Owner.	Tenant.	Average.	Owner.	Tenant.	Average.
	$ c	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Almonte	58 29	41 00	17 81	19 38	18 48	39 63	38 96	39 34	77 09	96 67	85 48
Bowmanville	71 82	45 85	24 42	21 18	22 27	43 54	41 33	42 06	93 93	96 91	97 10
Brantford	74 82	43 95	18 96	18 05	18 44	47 94	43 85	45 69	87 60	89 03	88 54
Brockville	81 48	43 05	21 40	22 78	22 27	42 77	43 96	43 52	91 18	100 53	97 05
Carleton Place	76 53	39 62	15 36	11 89	13 38	43 15	46 23	44 94	81 82	94 34	89 48
Chatham	64 13	29 94	18 65	16 27	17 06	51 48	49 83	50 38	88 33	88 15	88 22
Cobourg	63 45	48 50	29 11	25 65	27 02	38 21	30 47	33 53	95 39	94 51	94 86
Cornwall	77 12	42 67	14 95	18 44	17 15	37 15	42 36	40 47	76 56	100 84	92 97
Galt	73 88	35 38	18 79	17 39	17 82	49 00	51 66	50 71	78 72	90 82	86 28
Gananoque	65 47	40 54	25 38	17 25	19 98	47 40	37 72	40 90	111 17	88 26	95 77
Guelph	66 79	48 03	15 72	15 72	15 72	45 53	43 52	44 05	83 22	92 84	90 25
Hamilton	81 62	38 05	14 18	13 13	13 43	50 40	46 56	47 74	91 61	90 27	90 63
Kingston	70 20	41 64	18 70	18 96	18 92	42 98	43 22	43 19	78 47	90 03	88 22
London	77 41	40 85	19 36	18 15	18 59	48 87	46 48	47 31	94 64	93 22	93 72
Oshawa	66 41	44 31	13 60	12 53	12 91	43 63	40 99	41 90	84 38	83 26	83 61
Ottawa	71 00	37 71	14 06	12 38	13 14	45 31	45 98	45 70	77 75	81 68	80 38
Perth	69 56	37 35	23 33	22 53	22 79	33 38	34 73	34 29	83 30	91 90	89 14
Peterborough	67 38	39 06	15 63	14 71	15 00	46 85	43 29	44 37	83 05	83 95	83 67
St. Catharines	69 93	39 84	16 01	13 01	13 88	49 20	44 06	45 57	84 49	86 67	86 03
St. Thomas	79 30	40 67	16 98	17 11	17 04	50 45	45 14	48 11	87 48	99 09	92 87
Smith's Falls	54 00	43 57	12 43	18 08	13 81	29 58	46 58	34 11	59 17	88 75	71 10
Stratford	77 18	39 31	23 47	23 59	23 53	41 09	39 63	40 28	91 51	93 71	92 64
Toronto	121 62	45 85	18 13	15 60	15 97	53 50	44 35	45 62	92 28	103 34	102 78
Uxbridge	54 42	33 88	15 77	16 89	16 47	44 23	51 60	48 97	85 42	104 56	94 99
The Province 1888	77 63	41 78	18 51	16 92	17 41	45 40	43 57	44 14	88 07	92 93	91 36
1887	82 68	39 35	.....	......	15 85	......	......	44 37	......	......	88 90
1886	71 52	41 21	.....	.....	18 84	......	......	44 42	......	......	88 96
1885	74 41	40 53	......	......	19 03	......	......	47 67	......	......	88 36
1885-8	76 56	40 72	......	......	17 80	.....	......	45 18	......	......	89 40

An examination of a preceding table will show that the workers here represented consist of 1,851 householders and 9 boarders. The former are composed of 579 owners and 1,272 tenants, of which 3 are females. Rent shows a decrease over the province of $5.05 from the average of 1887, but is over one dollar higher than the annual average. Seven places, however, are embodied this year that were not represented in 1887, and the rent in them is much below the average. In fact, compared with 1887, only four places show decreases in rentals, Ottawa alone showing a reduction of $26.08, while the number of tenants reporting rent is but 10, against 227 in 1887. The returns from Toronto also affect the average, the rent being $121.62, or $8.98 higher than in 1887, while the number of tenants reporting rent is 135 against 278 in 1887. The cost of fuel to each householder shows an increase of $2.43 over last year, or $1.06 over the annual average. As usual Chatham is lowest in this item, the annual average for fuel in this town being $29. The amounts paid for fuel in Toronto and Bowmanville are identical, while in Cobourg and Guelph they are highest. In the item of clothing (averaged per capita in family) owners spend $1.59 more than tenants. The average of both classes is $17.41, an increase of $1.26 over 1887, but 39 cents less than the annual average. Cobourg is also highest in this item, but is lowest in cost of food. Owners can afford to spend $1.83 per capita more than tenants for food. The average for both classes is 23 cents less than in 1887, and $1.04 less than the annual average. The cost of food in Toronto is exceeded in eight places, Galt being highest at $50.71, or $6.57 greater than the provincial average. The total cost of living per capita is $4 86 less to owners than to tenants, and the average of both is $1.96 higher than the annual average. In a former table we found that the family of the males who are owners averaged 4.77 persons including the worker himself.

The cost of living per worker will thus be: fuel $41.78, clothing $88.29, and food $216.56, making a total of $346.63 under these heads. His total income is $479.43, and he saves $62.44, leaving a margin of $70.36 for other expenses of living. The male tenant's family in like manner averages 4.59 persons, and his income is $455.52. His cost of living is: rent, $77.63, fuel $41.78, clothing $77.66, and food $199.99, making a total under these necessaries of life of $397.06. His savings amount to $28.46, thus leaving $30 for other items in his cost of maintenance.

EXTRA EARNINGS, SOCIETY DUES AND INSURANCE.—The following miscellaneous summary gives by towns and cities the number of workers making extra earnings outside of regular occupation, the number who receive aid from earnings of wife or minor children, and the averages in those cases; the number of workers who have given information on which rent, fuel and clothing are based in the preceding table; also the number who filled the item of society dues and insurance, with the average per worker:

Localities.	With dependents.										Without dependents.					
	Extra earnings.		Wife or minor children's earnings.		Rent.	Fuel.	Clothing.	Food.	Society dues and insurance.		Extra earnings.		Clothing.	Board.	Society dues and insurance.	
	No.	Av.	No.	Av.					No.	Av.	No.	Av.			No.	Av.
		$ c.		$ c.	No.	No.	No.	No.		$ c.		$ c.	No.	No.		$ c.
Almonte	2	22 50	....	.....	7	15	15	15	7	20 57	1	10 00	42	42	11	17 45
Bowmanville	4	20 25	4	46 38	22	34	34	33	21	16 89	1	18 00	13	14	5	18 20
Brantford ...	7	27 14	8	121 25	38	58	26	28	27	17 52	1	15 00	33	40	9	20 53
Brockville...	6	27 50	4	88 50	46	68	57	68	53	13 28	3	55 00	39	41	28	14 87
Carleton Pl..	1	25 00	11	72 64	30	49	47	47	42	17 82	1	50 00	23	23	18	17 18
Chatham....	52	59 61	14	68 57	52	77	76	76	39	21 10	10	39 50	16	16	2	11 00
Cobourg.....	5	61 00	1	35 00	33	54	54	54	26	19 69	....	.....	27	27	6	16 00
Cornwall....	1	30 00	11	90 09	26	36	29	29	24	9 36	2	15 00	18	20	6	12 70
Galt.	3	50 00	6	75 42	17	26	23	23	11	17 30	3	13 33	12	12	6	37 57
Gananoque..	5	149 00	7	53 43	19	28	27	30	16	28 19	2	34 00	18	18	7	13 79
Guelph......	10	59 50	20	62 85	167	219	221	220	170	16 86	....	......	56	55	30	14 04
Hamilton ...	19	52 97	21	80 78	108	135	92	61	106	15 08	3	26 00	35	40	32	12 83
Kingston....	13	71 62	30	117 58	95	102	85	93	78	14 37	3	53 33	58	63	41	9 96
London.	5	35 20	30	122 50	115	147	145	140	112	15 49	....	......	47	48	23	18 71
Oshawa.	4	81 25	2	262 50	27	36	33	34	31	22 75	....	....	6	6	5	9 06
Ottawa......	3	13 33	1	50 00	10	14	13	13	15	14 73	1	10 00	3	4	3	10 17
Perth.	1	12 00	2	40 00	32	46	46	46	29	17 71	....	......	16	16	13	15 31
Peterbor'ugh	6	65 67	3	101 00	21	31	31	31	25	15 60	....	....	27	27	10	12 45
St. Catharin's	9	58 67	13	50 15	89	126	124	125	111	11 28	1	25 00	34	34	26	5 52
St. Thomas..	5	59 40	1	30 00	10	21	20	21	19	26 93	....	......	3	3	3	17 13
Smith's Falls	4	24 13	2	48 50	6	11	9	8	10	13 61	....	.....	....	....	....	......
Stratford....	13	46 92	8	48 13	60	91	78	78	66	19 28	15	20 00	73	81	47	16 19
Toronto.....	4	29 00	14	98 57	135	155	155	151	123	9 69	4	26 61	135	138	70	6 11
Uxbridge....	....	.....	3	93 67	19	17	16	17	15	13 17	....	......	2	2	2	20 20
The Province	182	54 80	216	88 24	1,184	1,596	1,456	1,441	1,176	15 53	51	28 84	736	770	403	12 91

Of 1,860 workers with dependents, 182, or nearly one-tenth, derive extra earnings, and in 216 cases the worker is aided by his wife or children's earnings. In 35 cases these extras are coincident with the wife's or children's help, and thus the regular wages are augmented in nearly one-fifth of the workers reporting. The extra earnings range from $4 to $400, the latter being a case in Gananoque, and which accounts for the high average there. In the 35 cases alluded to the average extra earnings amount to $39.89, and the wife or minor children's earnings to $76.83. Of 1,272 tenants 1,184 report on rent, and 1,596 out of 1,851 householders report on the cost of fuel. The cost of clothing is compiled from returns of 1,456 workers, with 5,343 persons dependent upon them; also 1,441 workers, having 5,257 dependents, report the cost of food. We cannot assume that every worker has the expense of society dues and insurance, but 1,176, or over 63 per cent. of workers with dependents expend in this way $15.53 on the average, the highest rates being paid in Gananoque and St. Thomas, and the lowest in Cornwall and Toronto. Owners pay $19.96 under this head, and tenants $13.47 ; in Toronto these figures are $20.18 and $7.65 respectively. Less than 6 per cent. of the workers without dependents add to their regular wages. In this class the average of those who pay society dues and insurance is $12.91 per head. In Toronto and St. Catharines the figures are less than one-half the average for the province. Of 892 workers in this class, 736 report on the cost of clothing, and 770 give the charge for board and lodging for the year.

COMPARISON BY OCCUPATION.

Leading trades compared.—An examination of the several occupations is next in order and in this we will confine our enquiry to the class of males over 16 and treat them as to experience by the subdivision with and without dependents. In reality a true comparison can only be obtained from annual returns from a fixed number of individuals in the various trades or callings, but a general average may suffice as an approximate comparison even if the same persons do not report year after year. In previous years we found it convenient to select five trades, viz., blacksmiths, carpenters, machinists, moulders and painters, as these were largely represented in the wood and iron industries of the province, and usually formed a predominant percentage of the returns. These may be called the five leading trades, and are desirable examples for our attention. They make 24 per cent. of the class of workers under discussion against 19 per cent. in 1887. Horse shoers, fitters, woodworkers, etc. are not included here, but will be tabulated separately. The statistics as to time employed, yearly earnings and cost of living are also collated by towns and cities, and only those places are shown in which at least five returns have been received from workers with dependents and at least three from workers without dependents. For the aggregate of the five trades the limit is fifteen with dependents or ten without dependents. Each of the trades is tabulated separately and averages deduced from the aggregate of the five follow :

Blacksmiths.	Returns.	Total dep.	Dep. under 16.	Hours per week.	Days in year.	Yearly wages.	Extra earnings.	Wife and children's earnings.	Total. earnings.	Total cost of living.	Cost. per capita.	Surplus or deficit (-).
With dependents :	No.	No.	No.	No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Brantford	5	3.40	2.20	59.20	280.00	447 00	......	......	447 00	375 00	85 23	72 00
Chatham............	14	3.29	2.21	59.79	246.71	427 14	10 21	......	437 35	405 00	94 50	32 35
Guelph	8	4.63	2.88	59.13	280.75	474 25	... ..	......	474 25	505 38	89 84	-31 13
Kingston	7	3.43	2.14	58.57	293.14	550 29	14 28	......	564 57	460 64	104 02	103 93
London	9	2.33	1.33	59 56	291.11	486 67	......	11 11	497 78	461 00	138 30	36 78
Perth	6	4.33	3.00	60.00	278.00	472 17	......	......	472 17	451 17	84 59	21 00
St. Catharines.......	5	4.80	3.60	59.40	263.20	475 15	......	9 60	484 75	394 60	68 03	90 15
Stratford	6	3.50	2.17	56.00	286.00	483 33	.....	......	483 33	408 17	90 70	75 16
Toronto	11	3.73	2.73	59 64	265.55	486 46	......	5 45	491 91	461 38	88 73	30 53
Other places	22	4.27	3 09	58.18	274.95	469 03	12 84	6 68	488 55	437 51	82 98	51 04
Average.. 1888..	93	3.77	2.57	58.94	273.57	473 33	5 65	3 82	482 80	438 61	91 87	44 19
Average.. 1887..	69	3.59	2.38	58.67	274.77	449 15	6 60	8 33	464 08	423 66	92 22	40 42
Without dependents :												
Brantford	3	.....	......	59.00	293.33	293 33	......	.....	293 33	225 00	......	68 33
Stratford...........	3	. ...	......	57.33	291.00	399 58	8 33	......	407 91	336 00	......	71 91
Toronto	7	......	......	60.00	256.43	406 66	......	......	406 66	308 57	......	98 09
Other places	9	... ..	......	59.44	290.56	461 83	......	......	461 83	310 11	......	151 72
Average.. 1888..	22	......	......	59.27	280.14	412 81	1 14	.....	413 95	301 55	.... .	112 40
Average.. 1887..	21	......	......	59.86	257.76	391 32	1 90	......	393 22	280 76	.. ...	112 46
With and without dependents. 1888..	115	3.05	2.08	59.00	274.83	461 75	4 79	3 08	469 62	412 39	101 77	57 23
With and without dependents. 1887..	90	2.76	1.82	58.98	270 80	435 66	5 50	6 39	447 55	390 32	103 93	57 23
With and without dependents. 1884-8	....	2.77	1.83	58.91	272.34	435 25	5 06	8 44	448 75	387 94	103 01	60 81

While the weekly time is almost stationary, the year's employment shows an increase for all blacksmiths of 4 days over 1887 and 2½ days more than the annual average. The year's earnings exceeded the annual average by $20.87, but the cost of living also advanced, the average savings being the same as in 1887.

Carpenters.		Returns.	Total. dep.	Dep. under 16.	Hours per week.	Days in year.	Yearly wages.	Extra earnings.	Wife and children's earnings.	Total. earnings.	Total cost of living.	Cost per capita.	Surplus or deficit (-).
With dependents :		No.	No.	No.	No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Brantford		6	5.17	3.83	56.50	254.33	427 58	1 67	33 33	462 58	397 00	64 38	65 58
Galt		5	3.40	2.00	59.00	270.40	482 32	......	28 40	460 72	354 12	81 85	106 60
Guelph		11	4.00	2.64	59.18	269.18	496 18	.....	9 09	505 27	484 27	96 85	21 00
Hamilton		7	5.29	4.00	53.57	230.57	445 50	15 71	4 29	465 50	481 83	76 65	16 33
London		26	3.69	2.12	50.96	268.08	439 69	.....	5 77	445 46	441 44	94 16	4 02
Peterborough		6	3.50	2.67	60.00	220.00	363 00	......	16 67	379 67	410 48	91 22	-30 81
St. Catharines		11	2.55	1.36	54.55	262.00	495 19	4 54	......	499 73	411 35	118 01	88 38
St. Thomas		5	4.80	3.40	57.40	275.80	492 04	......	......	492 04	453 84	78 25	38 20
Stratford		8	3.38	1.87	56.13	276.38	473 13	.. ..	.....	473 13	394 38	90 14	78 75
Toronto		17	3.94	2.94	47.35	292.82	500 56	......	8 35	508 91	494 32	100 04	14 59
Other places		26	3.81	2.27	58.88	271.31	437 69	8 19	11 93	457 81	399 18	83 03	58 63
Average..	1888..	128	3.84	2.48	54.82	267.55	457 00	2 99	9 17	469 16	433 81	89 70	35 35
	1887..	163	3.98	2.66	53.47	240.66	418 09	6 49	14 12	438 70	416 06	83 62	22 64
Without dependents :													
Galt		3	......	......	57.67	286.67	398.67	......	......	398 67	255 80	......	142 87
Toronto		4	......	......	49.50	250.50	454 70	......	......	454 70	352 00	......	102 70
Other places		12	......	......	56.58	263.67	419 61	......	......	419 61	330 70	......	88 91
Average..	1888..	19	......	......	55.26	264 53	423 69	......	......	423 69	323 36	......	100 33
	1887..	26	......	......	53.04	235.88	369 03	3 85	.....	372 88	288 63	......	84 25
With and without dependents.	1888..	147	3.34	2.16	54.88	267.16	452 69	2 60	7 99	463 28	419 53	96 66	43 75
	1887..	189	3.43	2.29	53.41	240.01	411 34	6 13	12 17	429 64	398 53	90 00	31 11
	1884-8	....	3.16	2.04	55.83	259.11	420 82	6 18	10 27	437 27	389 37	93 60	47 90

In this trade the weekly time is about an hour less than the annual average and the yearly employment 8 days longer. The total earnings of workers with dependents are greater than in 1887 by $30.46 and the cost of living has increased $6.08 per capita.

Machinists.		Returns.	Total. dep.	Dep. under 16.	Hours per week.	Days in year.	Yearly wages.	Extra earnings.	Wife and children's earnings.	Total earnings.	Total cost of living.	Cost per capita.	Surplus.
With dependents :		No.	No.	No.	No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Brockville		7	4.43	3.00	58.29	288.57	486 86	......	14 86	501 72	470 72	86 71	31 00
Carleton Place		5	3.00	1.40	53.40	279.80	504 30	......	12 00	516 30	482 71	120 69	33 56
Chatham		8	3.25	2.13	59.50	231.88	366 25	28 63	......	394 88	380 25	89 47	14 63
Cobourg		5	4.20	3.00	58.60	287.60	558 00	....	......	558 00	558 00	107 31	.....
Galt		5	5.40	3.80	57.80	286.60	548 40	12 00	20 00	580 40	536 14	83 77	44 26
Gananoque		5	4.20	2.60	56.80	284.00	555 10	4 00	16 80	575 90	522 20	104 23	53 70
Guelph		11	2.82	1.64	59 00	254.55	454 36	0 46	......	454 82	446 91	117 05	7 91
Hamilton		14	3.29	2.36	58.36	264.36	457 56	4 64	......	462 20	441 53	103 03	20 67
London		11	4.00	2.82	59.27	290.55	531 45	10 64	11 36	553 45	446 28	89 26	107 17
Stratford		11	4.18	2.36	56.82	282.55	454 54	2 27	4 55	461 36	423 82	81 79	37 54
Toronto		8	2.38	1.38	56.25	290.50	550 54	......	....	550 54	521 57	154 54	28 97
Other places		20	3.60	2.15	58.85	282.80	490 55	.. ...	10 00	500 55	422 95	91 94	77 60
Average ..	1888..	110	3.63	2.31	58.06	275.91	487 56	4 74	6 57	498 87	455 75	98 49	43 12
	1887..	77	3.83	2.57	56.84	271.03	448 47	9 82	15 12	473 41	419 39	86 81	54 02
Without dependents :													
Carleton Place		3	......	......	56.00	300.00	470 00	. ...	......	470 00	418 33	....	51 67
Galt		3	......	......	55.00	279.67	466 33	......	.....	466 33	323 00	......	143 33
Kingston		5	......	......	58.00	262.00	415 40	.. ..	.....	415 40	270 20	......	145 20
London		4	... ..	......	59.75	300.00	522 50	......	......	522 50	230 50	.... .	292 00
Stratford		8	......	......	48.75	271.50	348 13	......	.....	348 13	294 50	......	53 63
Toronto		4	......	......	54.75	291.25	547 00	......	......	547 00	377 25	......	169 75
Other places		15	......	......	59.33	271.80	437 65	6 27	.....	443 92	294 63	......	149 29
Average ..	1888.	42	......	......	56 21	277 69	440 80	2 24	....	443 04	304 32	......	138 72
	1887..	41	......	......	57.98	261.20	402 90	5 02	......	407 92	290 04	......	117 88
With and without dependents.	1888..	152	2.63	1.67	57.55	276 40	474 64	4 05	4 76	483 45	413 91	114 18	69 54
	1887..	118	2.50	1.68	57.24	267.61	432 64	8 15	9 86	450 65	374 45	106 98	76 20
	1884-8	....	2.73	1.78	58.17	268.54	448 24	6 87	8 66	463 77	392 79	105 31	70 98

The weekly time of machinists shows an increase over last year but is 37 minutes less than the annual average, and the year's work lasted nearly 8 days longer than usual.

Those with dependents earned $25.46 more than in 1887 and the cost of living increased $11.68 per capita.

Moulders.	Returns.	Total dep.	Dep. under 16.	Hours per week.	Days in year.	Yearly wages.	Extra earnings.	Wife and children's earnings.	Total earnings.	Total cost of living.	Cost per capita.	Surplus.
	No.	No.	No.	No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents:												
Brantford	5	2.60	0.40	57.00	260.00	561 80	......	......	561 80	446 80	124 11	115 00
Brockville	17	2.88	1.82	60.24	281.29	436 69	......	......	436 69	401 96	103 53	34 73
Guelph.............	8	4.63	3.38	58 75	267.13	518 00	......	......	518 00	476 88	84 78	41 12
Hamilton	8	4.50	3.00	57.63	212 50	466 67	6 75	25 00	498 42	462 00	84 00	36 42
London	14	3.79	2.36	58 79	271.93	442 21	.... ..	......	442 21	432 43	90 36	9 78
Oshawa	8	4.13	2.88	53 25	278.13	672 63	21 25	......	693 88	589 87	115 10	104 01
Other places........	15	2.93	1.67	56.47	272.13	543 09	......	9 00	552 09	482 32	122 62	69 77
Average 1888..	75	3.53	2.20	57.81	267.11	504 38	2 99	4 46	511 83	461 15	101 72	50 68
Average 1887..	55	3.96	2.55	58.30	251 25	498 41	6 56	15 91	520 88	454 17	91 50	66 71
Without dependents:												
Kingston..........	4	......	......	58 00	300 00	496 25	......	......	496 25	304 75	......	191 50
Other places........	10	... .	......	56.99	263 70	440 01	......	......	440 01	312 59	......	127 42
Average 1888..	14	......	......	57.21	274.07	456 08	......	......	456 08	310 35	......	145 73
Average 1887..	9	......	......	58.67	261.22	461 56	5 55	......	467 11	336 00	......	131 11
With and without dependents. 1888..	89	2.98	1.85	57.72	268.20	496 78	2 52	3 76	503 06	437 42	109 97	65 64
1887..	64	3.41	2.19	58.35	252 66	493 23	6 42	13 67	513 32	437 55	99 30	75 77
1884-8	....	2 91	1.93	57.61	254.01	478 47	3 78	5 28	487 53	425 45	108 81	62 08

The weekly time of moulders is 38 minutes shorter than in 1887 but slightly above the annual average, and the number of days employed was 14 more than the annual average. For those with dependents the regular wages increased, but owing to a falling off in the extras the gross earnings were diminished by about $9. The number of dependents was smaller and the cost of living increased by $10.22 per capita.

Painters.	Returns.	Total dep.	Dep. under 16.	Hours per week.	Days in year.	Yearly wages.	Extra earnings.	Wife and children's earnings.	Total earnings.	Total cost living.	Cost per capita	Surplus or deficit (-)
	No.	No.	No.	No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents:												
Cobourg	6	3.67	2 50	58.83	260.83	442 83	24 17	......	467 00	456 83	97 89	10 17
Guelph	9	3.00	1.56	58.00	264 33	440 67	......	......	440 67	441 78	110 44	-1 11
Hamilton.	9	2.78	1.78	51.22	209.44	375 27	20 00	......	395 27	379 14	100 36	16 13
London	17	3.18	1.82	54.71	249.24	368 88	......	12 06	380 94	393 82	94 30	-12 88
Perth	5	3.60	2.00	60.00	269.60	414 20	......	......	414 20	402 80	87 57	11 40
Toronto	8	4.25	3.25	53 13	246.13	496 03	......	......	496 03	485 63	92 50	10 40
Other places.........	23	4.00	2.48	57.43	256.35	429 92	5 70	15 35	450 97	408 34	81 67	42 63
Average 1888..	77	3.53	2.19	56.00	250.38	418 17	5 92	7 25	431 34	417 08	92 02	14 26
Average 1887..	69	3.58	2.54	57.23	246.06	407 92	9 26	5 36	422 54	400 13	87 37	22 41
Without dependents:												
Hamilton	3	......	......	56.33	183 00	328 33	......	......	328 33	289 21	......	39 12
London	3	......	......	60.00	263.33	346 00	......	......	346 00	265 00	......	81 00
Peterborough	3	.....	....:	60.00	283.33	326 00	......	......	326 00	258 33	......	67 67
Toronto	6	......	......	57 33	225.83	410 58	6 00	.....	416 58	310 25	......	106 33
Other places........	17	......	......	57.41	235.47	369 41	6 76	......	376 17	293 50	......	82 67
Average 1888..	32	......	......	58.31	235.84	367 01	4 72	......	371 73	290 27	.... .	81 46
Average 1887..	32	......	......	59.16	240.75	363 78	4 38	......	368 16	264 50	......	103 66
With and without dependents. 1888..	109	2.50	1.55	56.68	246.11	403 15	5 57	5 12	413 84	379 85	108 67	33 99
1887..	101	2.45	1.73	57 84	244 38	393 94	7 71	3 66	405 31	357 16	103 66	48 15
1884-8	....	2.54	1.59	57.62	250.59	397 60	8 02	5 25	410 87	368 31	104 04	42 56

The weekly time shows a decrease of about an hour, while the yearly employment is the lowest of the five trades, and although 1¾ days more than in 1887, it is less than the annual average by 4½ days. The gross earnings and cost of living of those with dependents show increases over 1887, the latter being equal to $4.65 per capita.

The Five Trades.	Returns.	Total dep.	Dep. under 16.	Hours per week.	Days in year.	Yearly wages.	Extra earnings.	Wife and children's earnings.	Total earnings.	Total cost of living.	Cost per capita.	Surplus.
	No.	No.	No.	No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
With dependents:												
Brantford	21	3.33	1 86	57.95	265.10	463 26	0 48	9 52	473 26	399 52	92 20	73 74
Brockville	30	3.57	2.43	59.73	277.83	445 49	0 87	3 47	449 83	413 84	90 62	35 99
Chatham	31	3.13	1.97	59.55	238.74	396 36	18 61	0 32	415 29	393 93	95 41	21 36
Galt	15	3.80	2.47	57.87	286.20	500 07	4 00	20 13	524 20	436 76	90 99	87 44
Guelph...........	47	3.74	2.36	58.83	266.45	475 74	0 11	2 13	477 98	469 72	99 00	8 26
Hamilton	39	3.85	2.69	55.72	234.36	437 31	10 49	7 44	455 24	439 55	90 70	15 69
Kingston	18	3.33	2.11	58.39	289.11	530 22	5 56	18 05	553 83	441 58	101 90	112 25
London	77	3.48	2.10	55.40	270 52	443 12	1 52	7 53	452 17	432 31	96 49	19 86
Oshawa	18	4.17	2.94	56.39	269.83	544 22	9 45	8 33	562 00	480 25	92 95	81 75
Perth	15	3.67	2.20	60.00	271.67	430 60	.....	......	430 60	415 00	88 93	15 60
St. Catharines....	20	3.45	2.25	55.80	261.90	480 02	2 50	7 80	490 32	411 34	92 44	78 98
Stratford	27	3.67	2.07	56.44	279.30	461 67	0 93	2 96	465 56	408 00	87 43	57 56
Toronto	47	3.70	2.66	53.30	275.95	511 82	......	5 57	517 39	496 32	105 55	21 07
Other places......	78	4.12	2.64	57.63	274.09	485 10	7 19	7 51	499 86	457 53	89 44	42 27
Average.. 1888	483	3.68	2.37	57.00	267.81	468 27	4 37	6 51	479 15	441 31	94 27	37 84
Average.. 1887	433	3.82	2.56	56.11	253.70	437 02	7 55	12 21	456 78	420 17	87 09	36 61
All other occupations. 1888	1374	3.62	2 29	58.80	267.92	439 74	5 73	11 58	457 05	417 48	90 32	39 57
All other occupations. 1887	1501	3.59	2.34	59.78	258.89	423 79	10 83	12 93	447 55	410 68	89 42	36 87
Without dependents:												
Kingston	10	......	......	58.20	281.00	451 20	.....	...	451 20	286 10	.....	165 10
London	11	......	....	58.45	288.18	450 27	......	......	450 27	264 55	......	185 72
Stratford	14	......	......	52.57	270.29	365 98	4 65	......	370 63	306 57	......	64 06
Toronto	21	......	......	56.24	253.19	443 66	1 72	......	445 38	330 40	......	114 98
Other places......	73	......	......	58.08	262.40	409 18	2 31	......	411 49	305 36	......	106 13
Average.. 1888	129	.. ...	......	57.22	265.40	416 87	2 09	......	418 96	303 82	......	115 14
Average.. 1887	129	......	......	57.63	250.46	388 58	4 15	......	392 73	285 12	......	107 61
All other occupations. 1888	568	......	......	58.79	275.26	354 93	1 80	......	356 73	275 73	......	81 00
All other occupations. 1887	918	.... .	......	58.95	269.14	321 94	2 43	... ..	324 27	262 15	......	62 22
With and without dependents:												
The five trades.. 1888..	612	2.91	1.87	57.05	267.30	457 43	3 89	5 14	466 46	412 33	105 58	54 13
The five trades.. 1887..	562	2.95	1.98	56.46	252.96	425 90	6 77	9 41	442 08	389 17	98 61	52 91
The five trades.. 1884-8	625	2.86	1.88	57.40	261.00	434 19	6 08	7 98	448 25	391 74	101 49	56 51
All other occupations. 1888	1942	2.56	1.62	58.80	270.07	414 94	4 57	8 20	427 71	376 02	105 54	51 69
All other occupations. 1887	2419	2.23	1.45	59.46	262.78	385 14	7 64	8 02	400 80	354 31	109 77	46 49

For both classes in the aggregate of these five trades the weekly time averages 35 minutes more than in 1887 but is 21 minutes shorter than the annual average. It was also less than for all other occupations by 1¾ hours in 1888 and by 3 hours in 1887. The yearly employment was 14⅓ days more than in 1887 and 6.3 days more than the annual average. It was less than for all other occupations by 2¾ days in 1888 and by nearly 10 days in 1887. These deviations are mainly in the class without dependents. For those with dependents the gross earnings exceeded 1887 by $22.37 notwithstanding a decrease of nearly $9 in the amount of extras. The cost of living also increased, being equal to $7.18 per capita. Compared with all other occupations the average total earnings of the five trades is greater by $22.10 as against $9.23 in 1887. The total cost of living is correspondingly greater in both years, and equal to an increase of $3.95 per capita in 1888 and a decrease of $2.33 per capita in 1887. Similar differences exist in the class of workers without dependents but here the average savings of the five trades exceed all other occupations by $34.14 in 1888 and $45.39 in 1887. In Hamilton the regular wages fall short of the cost of living by $2.19, while in Chatham the margin on the other side is but $2.43. In Table II the yearly statistics are tabulated by occupations and the averages of workers with and without dependents are given separately. Except in the case of these five trades for 1887, no such distinction was drawn in previous years. Our only comparison, therefore, for other occupations or industries must be with the averages of both divisions and in this we must necessarily be restricted to time employed and wages earned. We see from the above that the yearly wages from regular occupation of workers with dependents in the five trades are $51.40 greater than for those without dependents. Each of the two divisions shows an increase of over 7 per cent. as compared with 1887.

A much larger difference is observed in all other occupations, but here we find a higher percentage of the workers without dependents.

OTHER TRADES COMPARED.—The following table shows the time employed, yearly wages and extra earnings for the years 1887 and 1888, with the annual average for the five years 1884-8, in several other occupations or industries from which a fair representation has been made in the returns year after year :

Occupations.		Hours per week.	Days in year.	Yearly wages.	Extra earnings.
		No.	No.	$ c.	$ c.
MALES OVER 16.					
Baker	1888..	62.5	269.7	469 55	0 27
	1887..	64.1	304.5	467 07	4 55
	1884-8	63.2	290.7	424 68	1 72
Boilermaker.	1888.	55.4	277.5	547 40	4 00
	1887..	58.6	287.4	497 43	0 71
	1884-8	57.4	260.1	474 84	1 42
Bricklayer .	1888..	55.3	184.8	478 16	0 67
	1887..	58.7	175.4	441 68	3 89
	1884 8	56.6	187.1	453 60	8 48
Cabinet maker..	18 8..	58.7	281.7	435 36	4 69
	1887..	57.5	285.8	437 89	12 29
	1884-8	58.0	282.5	425 42	5 49
Carriage trimmer.	1888..	57.7	271.8	451 59	....
	1887..	59.1	247.5	410 19	5 31
	1884-8	57.1	259.3	447 21	4 39
Cigar maker.	1888..	53.5	289.2	462 60	......
	1887..	48 7	280.2	357 42	6 61
	1884-8	51.8	267.6	374 31	4 34
Cooper......	1888..	56.3	266.9	358 83	0 52
	1887..	57.5	266.4	366 07	5 11
	1884-8	58.3	263.2	365 70	6 07
Cotton mill operative..	1888..	60.0	257.0	329 50	1 74
	1887..	60 1	276.2	367 40	1 46
	1884-8	60.2	263.6	352 68	3 61
Engineer....	1888..	64.2	283.2	412 72	7 56
	1887..	65.1	291.6	456 65	8 54
	1884-8	63.6	290.2	430 54	6 35
Fireman	1888..	66.4	281.3	391 62	......
	1887..	58 9	270.9	388 62	5 77
	1884-8	62.5	270.5	352 93	3 35
Harness-maker..	1888..	58 2	287.3	408 49	4 62
	1887..	58.4	289.7	416 37	7 94
	1884 8	57.9	281.1	394 65	6 09
Laborer.....	1888..	57.6	256.9	308 39	6 10
	1887..	59.4	221.5	270 67	10 53
	1884-8	58.0	241.3	293 01	9 38
Lumber mill employé..	1888..	57.0	254.8	356 85	10 77
	1887..	65.8	207 9	305 41	7 97
	1884 8	61.9	254.4	387 70	12 34
Marble cutter...	1888..	59.4	243 8	434 73	2 08
	1887..	58.5	226.9	482 63	13 75
	1884-8	58.1	254.5	432 19	4 05
Mason (stone)	1888..	57.0	176.9	478 93	2 50
	1887..	58 5	172.1	436 90	11 78
	1884-8	57.9	180.1	427 16	13 54
Miller	1888..	64.1	272.3	457 83	9 38
	1887..	69.5	293.7	475 44	....
	1884-8	65.8	289.0	475 53	5 73
Plasterer....	1888..	54.9	221.7	499 34	2 50
	1887..	54.2	198.7	499 25	6 54
	1884-8	56.3	217.3	468 24	4 13

Occupations.		Hours per week.	Days in year.	Yearly wages.	Extra earnings.
MALES OVER 16.		No.	No.	$ c.	$ c.
Plumber	1888..	56.4	269.2	501 94	......
	1887..	56.3	240.3	458 38	.. ..
	1884 8	57.4	258.7	460 94	9 93
Pressman ...	1888..	56.9	296.5	499 10	......
	1887..	56.7	282.6	409 21	19 58
	1884-8	57.4	294.6	468 54	21 18
Printer.....	1888..	57.8	291.5	455 88	6 29
	1887..	54.6	255.5	424 78	6 13
	1884-8	56.5	275.1	431 97	4 99
Salesman...	1888..	61.2	293.5	420 72	.....
	1887..	63.1	301.5	411 07	5 36
	1884-8	62.7	301.6	424 90	7 95
Shoemaker .	1888..	58.4	281.1	407 71	3 17
	1887..	58.5	259.4	349 75	1 70
	1884-8	58.5	279.2	387 24	12 96
Stonecutter.	1888..	57.0	205.3	533 05	3 36
	1887..	...	....	....	.....
	1884-8	57.7	214.5	491 14	1 12
Tailor.....	1888..	58.4	248.8	402 08	5 76
	1887..	60.1	253.4	376 05	5 65
	1884-8	58.6	257.7	406 34	5 95
Tannery employé..	1888..	57.7	279.3	425 06	......
	1887.	60.2	292.1	406 96	4 34
	1884-8	59 0	286.9	399 14	1 23
Teamster...	1888..	61.3	289 7	350 07	0 32
	1887..	60.1	256.1	309 93	23 55
	1884-8	62.1	286.3	345 82	7 46
Tinsmith....	1888..	58.3	285.3	427 64	......
	1887..	59.5	267.5	406 31	3 40
	1884 8	57.7	284.5	418 19	3 71
Woollen mill operative..	1888..	59 0	286.4	388 38	0.66
	1887..	59 3	290.2	330 49	0 47
	1884-8	59.6	285.4	367 71	0 88
FEMALES OVER 16.					
Cigar maker	1888..	54.6	302.0	271 50	......
	1887..	......	....	....	..
	1884-8	54.6	288.4	233 04	......
Cotton mill operative.	1888..	60.3	248.2	226 25	0 42
	1887..	60.0	269 0	223 85	... ..
	1884-8	60.2	261.7	212 62	0 08
Dressmaker.	1888..	50 6	274.0	194 86	......
	1887..	60 0	284.1	167 30	.... .
	1884.8	56.4	275.2	176 19	2 50
Paper bag and box maker..	1888..	53.7	302.8	205 73	......
	1887..	54.0	297.4	215 81	.....
	1884-8	55.7	286.9	195 86	......
Tailoress ...	1888..	55.8	263.3	207 26	3 12
	1887..	55.4	252.5	192 93	0 64
	1884-8	56.3	258.2	196 55	1 61
Woollen mill operative..	1888..	59.4	286.3	202 12	......
	1887..	59.2	298.0	179 97	1 88
	1884-8	59.5	280.6	174 10	1 29

Of the above 28 occupations in which males over 16 are employed, the returns are nearly 40 per cent. of the total, and of the 6 industries in which females over 16 are employed, the returns number 129 out of a total of 163. In 9 of the male occupations the weekly time is longer than the annual average. The yearly employment is longer in 16 male occupations than in 1887, and in same number as compared with the annual average. In seven male occupations the yearly wages were less than the annual average income from regular occupations. The extra earnings do not include aid from wife and minor children. They are higher than the annual average only in the cases of boilermakers, engineers, millers, printers and stonecutters.

CLASSIFICATION OF WORKERS BY RANGES.

Hitherto the returns have been classified by localities, by sex and age, and by occupation. A series of tables has been compiled which will present some interesting data for the students of statistics. They consist in classifying the workers, and giving the corresponding statistics by ranges according to the number of dependents, days employed, total yearly earnings, cost of living and surplus. Pursuing the method suggested on page 28 when dealing with weekly statistics, we could in this way describe yearly *curves of distribution*, according to the several phases by which the grouping has been made.

Number of Dependents.—The first classification refers only to a portion of the workers, or those with dependents. They are grouped according to the number dependent upon them for support. The table shows the number in each range, separated as owners and tenants, the number aided by dependents' earnings, the average income from such source, the total earnings, and the cost of living and average surplus; also the expenditure per capita for clothing, food and total cost of living:

Schedule.		Range of number of dependents.							Total.
		1	2	3	4	5	6	Over 6.	
No. of returns in range.	Owner..	79	110	106	107	65	59	62	588
	Tenant .	154	230	290	254	166	89	89	1,272
	Total...	233	340	396	361	231	148	151	1,860
No. aided by family ...	Owner..	2	8	7	8	8	11	20	64
	Tenant .	8	14	20	33	25	21	31	152
	Total...	10	22	27	41	33	32	51	216
Average per worker in range:									
No. of dependents under 16	Owner..	0.03	0.74	1.74	2.77	3.65	4.20	5.32	2.34
	Tenant .	0.02	0.91	1.81	2.67	3.68	4.42	5.67	2.30
	Total...	0.02	0.85	1.79	2.70	3.67	4.38	5.53	2.31
Average earnings of dependents ..$	Owner..	1.58	4.42	4.77	3.93	9.43	19.58	43.02	10.16
	Tenant .	4.06	6.37	5.42	9.45	8.52	21.61	41.42	10.29
	Total...	3.22	5.74	5.25	7.82	8.77	20.80	42.07	10.25
Total earnings .... $	Owner..	436.14	463.61	475.45	495.05	462.64	490.00	541.20	478.50
	Tenant .	421.50	424.09	446.70	458.26	487.34	501.98	503.56	455.02
	Total...	426.47	436.88	454.39	469.16	480.39	497.21	519.01	462.44
Cost of clothing, per capita . ... $	Owner..	37.23	26.07	21.22	18.86	14.51	13.69	13.28	18.51
	Tenant .	35.41	23.18	18.45	15.87	13.91	12.08	10.87	16.92
	Total...	36.00	24.03	19.12	16.78	14.07	12.71	11.83	17.41
Cost of food, per capita ....$	Owner..	91.95	62.35	51.87	43.89	38.29	34.71	33.99	45.40
	Tenant .	81.33	58.96	48.00	40.73	36.69	34.04	29.13	43.57
	Total...	84.48	59.97	48.93	41.70	37.12	34.30	31.09	44.14
Total cost of living.. $	Owner..	361.98	380.90	407.51	421.63	426.58	453.68	508.48	416.37
	Tenant .	375.42	390.15	416.72	434.95	463.64	480.74	496.08	426.71
	Total...	370.87	387.16	414.25	431.00	453.21	469.96	501.17	423.44
Cost of living, per capita ....$	Owner..	180.99	126.97	101.88	84.33	71.10	64.81	59.48	88.07
	Tenant .	187.71	130.05	104.18	86.99	77.27	68.68	55.61	92.93
	Total...	185.44	129.05	103.56	86.20	75.54	67.14	57.16	91.36
Surplus ....$	Owner..	74.16	82.71	67.94	73.42	36.06	36.32	32.72	62.13
	Tenant .	46.08	33.94	29.98	23.31	23.70	21.24	7.48	28.31
	Total...	55.60	49.72	40.14	38.16	27.18	27.25	17.84	39.00

The number of dependents does not necessarily imply the average family, but only those dependent for support upon the combined wages of head of family and said dependents. The largest division is the one of workers with 3 dependents, while 43 per cent. of the workers have 4 or more dependents, the average for all ranges being 3.63 persons exclusive of worker. About 11½ per cent. of the workers are benefited by dependents' earnings, the average per worker being $10.25, running by ranges from $3.22 to $42.07. The average to those aided was found in a former table to be $88.24, or $93.31 to owners and $86.11 to tenants. The average earnings of those workers without anyone else to support were found to be $331.70, and we see from the above that, with the exception of owners in ranges 5 and 6, the total earnings increase with the number of dependents. By deducting the earnings of the dependents this even appears to follow as to the earning power of the worker himself. His wages from regular occupation are augmented by extras running from $2.69 to $11.03 by ranges of dependents. These extras are confined to 70 owners at $50.09 each, and to 112 tenants at $57.21 each. The cost of living of those without dependents was $257.38, and naturally as shown above the cost of living of those with dependents increases with the number of dependents, but not in the same proportion, for as the number of dependents increases the cost of clothing, food and total living per capita decreases. Only in the highest range does the owner's total cost of living exceed the tenant's. In every range, however, the cost is higher in the items of food and clothing per capita. The number of workers with over six dependents consists of 84 with seven, 34 with eight, 24 with nine, 7 with ten, 1 with twelve, and 1 with fifteen, the average in the range being 7.55 for owners, 7.92 for tenants or 7.77 for both classes. The average surplus shows considerable diversity in the case of owners, but with tenants there is a successive falling off as the number of dependents increases. The 9 male boarders have been classed with the owners in this table.

RANGE OF DEPENDENTS BY LOCALITIES.—In the following table the distribution of the 1,860 workers is shown by localities according to the number of dependents:

No. of dep.	Almonte.	Bowmanville.	Brantford.	Brockville.	Carleton Place.	Chatham.	Cobourg.	Cornwall.	Galt.	Gananoque.	Guelph.	Hamilton.	Kingston.	London.	Oshawa.	Ottawa.	Perth.	Peterborough.	St. Catharines.	St. Thomas.	Smith's Falls.	Stratford.	Toronto.	Uxbridge.	Total.
1	3	10	14	15	8	23	5	5	5	4	24	11	13	32	1	1	1	4	7	4	1	23	10	9	233
2	5	10	16	17	7	34	10	14	5	8	39	28	26	35	5	4	6	5	15	5	2	21	19	4	340
3	3	7	11	12	7	26	10	12	6	8	47	37	32	29	9	2	15	6	33	4	3	24	40	13	396
4	3	6	8	16	14	32	14	7	4	5	37	32	19	32	6	1	14	6	29	2	1	30	41	2	361
5	...	6	5	8	4	17	7	5	3	1	29	25	9	15	8	...	8	6	27	3	...	14	29	2	231
6	...	...	5	3	6	18	2	2	1	2	28	15	8	16	4	1	...	2	12	3	...	10	10	...	148
7	1	...	3	1	2	7	5	. .	3	1	12	2	4	15	3	3	1	2	2	1	1	6	5	4	84
Over 7	...	...	4	5	4	6	1	...	1	1	6	4	5	9	2	4	1	1	1	2	3	2	4	1	67
Total.	15	39	66	77	52	163	54	45	28	30	222	154	116	183	38	16	46	32	126	24	11	130	158	35	1860
Av. dep.	2.7	2.7	3.4	3.3	3.9	3.6	3.7	3.0	3.6	3.3	3.8	3.7	3.5	3.7	4.3	5.1	3.7	3.8	3.8	3.8	4.6	3.4	3.9	3.2	3.63

For the province the numbers in the ranges increase until a maximum is reached for those with 3 dependents, after which a falling off takes place, and we find that but 16 per cent. of the workers have more than 5 dependents. Of the eight places from which more than a hundred reports were received, the average number of dependents is lowest in Stratford and highest in Toronto.

DAYS EMPLOYED IN YEAR.—The next classification exhibits the condition of the worker based upon the constancy of employment. The table shows the number employed in each range, their earnings and cost of living:

Range of days employed.	No. of workers.	Average per worker in range.						
		No. of dependents.	Days employed.	Yearly earnings.			Cost of living.	Surplus or deficit (-).
				Wages.	Extras.	Total.		
With dependents :				$ c.	$ c.	$ c.	$ c.	$ c.
150 and under	46	3.59	133.61	282 97	43 48	326 45	351 96	-25 51
150 to 200	135	3.75	182.39	379 32	29 22	408 54	402 70	5 84
200 to 225	99	3.37	215.98	399 38	20 30	419 68	406 00	13 68
225 to 250	243	3.62	241.20	406 79	20 29	427 08	405 29	21 79
250 to 275	361	3.67	265.61	430 37	14 91	445 28	416 37	28 91
275 to 300	740	3 63	293.14	472 09	10 42	482 51	433 52	48 99
Over 300	236	3.67	316.54	524 51	12 93	537 44	454 46	82 98
Average days employed...	1,850	3.63	267.89	446 83	15 61	462 44	423 44	39 00
Over average	1,142	3.63	294.91	477 10	11 52	488 62	435 18	53 44
Under average	718	3.63	224.91	398 69	22 12	420 81	404 77	16 04
Without dependents :								
150 and under	14	......	136.71	274 43	2 21	276 64	237 36	39 28
150 to 200	49	......	180.29	315 34	7 29	322 63	265 26	57 37
200 to 225	37	......	216.32	343 84	4 38	348 22	287 35	60 87
225 to 250	92	......	241.43	322 54	4 45	326 99	257 20	69 79
250 to 275	162	......	265.46	320 18	1 15	321 33	255 43	65 90
275 to 300	397	......	294.72	335 06	20	335 26	257 87	77 39
Over 300	141	......	312.08	339 24	1 74	340 98	249 74	91 24
Average days employed...	892	... ..	274.64	330 05	1 65	331 70	257 38	74 32
Over average	557	.....	298.44	336 56	60	337 16	256 43	80 73
Under average	335	......	235.06	319 24	3 39	322 63	258 95	63 68
With and without dependents:								
150 and under	60	.... .	134.33	280 97	33 85	314 82	325 22	-10 40
150 to 200	184	......	181.83	362 29	23 38	385 67	366 10	19 57
200 to 225	136	......	216.07	384 27	15 97	400 24	373 72	26 52
225 to 250	335	......	241.27	383 66	15 94	399 60	364 62	34 98
250 to 275	523	......	265.57	396 24	10 65	406 89	366 52	40 37
275 to 300	1,137	......	293.69	424 24	6 85	431 09	372 19	58 90
Over 300	377	.. ..	314.87	455 22	8 75	463 97	377 89	86 08
Average days employed...	2,752	......	270.08	408 98	11 09	420 07	369 62	50 45
Over average	1,632	......	297.17	430 53	7 26	437 79	373 86	63 93
Under average	1,120	......	230.59	377 58	16 66	394 24	363 43	30 81

Of the class with dependents over one-half are employed upwards of 275 days, and 1,142 are employed over the average time, getting 70 days more work than those who come below the average. The number of dependents remains nearly constant. The wages from regular occupation, cost of living and surplus increase, while the revenue from extras (including dependents' earnings) diminishes as the employment increases. Those employed 150 days and under have an average deficit of $25.51, their total earnings being less than the average by $125.99 and their cost of living by $71.48. There is such a divergence in the statistics of the male and female components of the class without dependents that in the aggregate the range statistics present no striking features. Over 60 per cent. of them work over 275 days, which is about their average period of employment. Those in the range 200 to 225 days average the largest earnings and cost of living. An examination will show us that as the days increase the rate per day decreases, the converse of a fact deduced when dealing with weekly wages.

RANGE OF DAYS EMPLOYED BY LOCALITIES.—The following table gives the number of workers, by localities, in the several ranges of days employed; also the average period of employment in each town, the workers being classified as with and without dependents:

Localities.	Average days employed.		Number of workers in range of days employed.															
			Number with dependents.								Number without dependents.							
	With dependents.	Without dependents.	150 and under.	150 to 200.	200 to 225.	225 to 250.	250 to 275.	275 to 300.	Over 300.	Totals.	150 and under.	150 to 200.	200 to 225.	225 to 250.	250 to 275.	275 to 300.	Over 300.	Totals.
Almonte.....	285	301	....	1	....	1	2	5	6	15	....	....	...	2	3	8	30	43
Bowmanville.	261	256	....	....	2	16	11	10	....	39	....	....	3	3	5	3	....	14
Brantford ...	270	271	3	4	1	9	10	31	8	66	2	4	2	5	6	28	3	50
Brockville ...	282	291	2	5	6	9	4	30	21	77	....	2	5	2	4	12	17	42
CarletonPlace	281	280	2	1	1	3	8	31	6	52	....	1	1	1	4	15	1	23
Chatham	251	264	10	25	15	21	16	46	30	163	1	6	2	4	8	6	15	42
Cobourg	287	289	....	....	1	2	3	44	4	54	....	....	....	....	1	46	1	48
Cornwall	258	255	2	5	....	4	20	11	3	45	....	3	1	3	9	5	2	23
Galt	267	257	1	3	2	1	1	17	3	28	2	3	....	2	3	4	6	20
Gananoque ..	268	264	....	5	....	....	7	16	2	30	....	....	1	4	7	6	....	18
Guelph	278	279	...	2	14	30	56	106	14	222	....	1	1	8	15	31	...	56
Hamilton	234	239	12	31	19	26	33	26	7	154	4	8	6	5	10	12	1	46
Kingston	280	283	....	6	4	17	9	54	26	116	1	1	1	6	12	30	16	67
London	271	281	3	7	8	25	45	85	10	183	....	4	....	3	7	34	....	48
Oshawa	276	267	....	1	3	3	8	16	7	38	....	....	1	2	....	1	2	6
Ottawa	234	271	1	4	4	2	....	4	1	16	....	1	....	....	....	1	2	4
Perth	261	253	....	5	2	1	22	16	...	46	...	3	1	....	5	6	1	16
Peterborough	240	278	4	5	3	3	5	11	1	32	1	....	3	2	1	19	1	27
St. Catharines	255	259	....	10	6	41	45	19	5	126	....	2	1	10	11	10	....	34
St. Thomas...	286	279	...	1	....	3	3	9	8	24	....	1	....	....	....	4	1	6
Smith's Falls.	287	.. .	....	....	....	2	....	6	3	11	....	....	....	...	....	....	....	....
Stratford	286	284	3	1	3	5	15	74	29	130	....	2	1	14	13	64	20	114
Toronto	269	271	3	13	5	15	36	55	31	158	3	7	7	16	38	50	22	143
Uxbridge	297	300	....	....	....	4	2	18	11	35	....	....	....	....	....	2	....	2
The Province 1888	268	275	46	135	99	243	361	740	236	1860	14	49	37	92	162	397	141	892
1887	258	270	61	309	216	217	225	638	285	1951	32	165	80	133	141	574	278	1403

Those with dependents are employed nearly 7 days less than those without dependents, and the greatest number in both classes, or about 40 per cent., is found in the range 275 to 300 days. In Cornwall, Hamilton, Perth and St. Catharines the greatest numbers are found in the range 250 to 275 days. About 55 per cent. of the workers receive over 275 days employment, the proportion ranging from 21 per cent. in St. Catharines, 23 per cent. in Hamilton to 77 per cent in Stratford and 93 per cent. in Cobourg. In Almonte 36 out of 58 workers are employed over 300 days, while five-ninths of the returns from Hamilton do not show over 250 days' employment. Only 3 in Guelph and 6 in

Stratford work 200 days or less, while in Bowmanville, Cobourg, Smith's Falls and Uxbridge all are employed over 200 days. The proportion in the lower range is much less than in 1887, and the average period of employment is increased nearly ten days for those with dependents.

Total Earnings.—The following table groups the workers on the basis of total yearly earnings. The number in each range is given, with the average time, earnings and cost of living. The average daily income and the cost of living per capita is also given :

Range of total earnings.	No of workers.	Average per worker in range.						
		No. of dependents.	Days employed.	Earnings.		Cost of living.		Surplus or deficit (-).
				Total.	Average per day.	Total.	Per capita	
With dependents :				$ c.	$ c.	$ c.	$ c.	$ c.
$200 and under	9	2.67	157.11	179 18	1 14	261 67	71 36	-82 49
$200 to $300	134	2.93	221.16	273 22	1 24	301 98	76 78	-28 76
$300 to $400	507	3.22	264.15	363 32	1 38	355 57	84 24	7 75
$400 to $500	644	3.69	270.83	456 19	1 68	422 61	90 18	33 58
$500 to $600	370	3.98	277.34	552 71	1 99	487 16	97 91	65 55
$600 to $700	122	4.27	279.68	649 15	2 32	544 65	103 34	104 50
Over $700	74	4.66	299.30	813 86	2 72	616 86	108 94	197 00
Average earnings	1.860	3.63	267.89	462 44	1 73	423 44	91 36	39 00
Over average	834	4.03	278.41	568 36	2 04	491 61	97 81	76 75
Under average	1,026	3.32	259.34	376 34	1 45	368 03	85 26	8 31
Without dependents :								
$200 and under	167	......	273.26	158 52	58	154 52	....	4 00
$200 to $300	222	......	275.33	259 24	94	219 37	....	39 87
$300 to $400	254	......	272.21	356 20	1 31	284 22	....	71 98
$400 to $500	178	......	270.20	449 65	1 66	319 01	....	130 64
$500 to $600	56	......	295 14	552 65	1 87	362 47	....	190 18
$600 to $700	10	......	294 80	633 41	2 15	412 21	....	221 20
Over $700	5	......	300.80	812 30	2 70	336 60	....	475 70
Average earnings	892	......	274.64	331 70	1 21	257 38	....	74 32
Over average	427	......	275.81	439 61	1 59	315 05	....	124 56
Under average	465	......	273.56	232 61	85	204 42	....	28 19
With and without dependents :								
$200 and under	176	......	267.32	159 57	60	160 00	....	-0 43
$200 to $300	356	......	254.94	264 50	1 04	250 46	....	14 04
$300 to $400	761	......	266.84	360 94	1 35	331 75	....	29 19
$400 to $500	822	......	270.69	454 78	1 68	400 18	....	54 60
$500 to $600	426	......	279.68	552 70	1 98	470 77	....	81 93
$600 to $700	132	......	280.83	647 96	2 31	534 62	....	113 34
Over $700	79	......	299.39	813 76	2 72	599 13	....	214 63
Average earnings	2,752	......	270.08	420 07	1 56	369 62	....	50 45
Over average	1,323	......	277.02	531 28	1 92	451 16	....	80 12
Under average	1,429	......	263.65	317 10	1 20	294 12	....	22 98

It will at once be seen that it is the minority who receive the highest wages, and in the preceding table the majority who worked the longest time. Only 30 per cent. of those with dependents and 8 per cent. of those without dependents earn over $500. We have seen that as the number of dependents increases the earnings increase, and this table proves the converse. We also saw that as the employment increased in the case of workers with dependents, the earnings increased. We now not only see the converse but also deduce the law, that as the total wages increase the earning power or the rate per day increases. The total cost of living, cost per capita and surplus also increase as the wages increase. Comparing those who earn above the average with those who come below, we find that the former average .71 dependent more, are employed nineteen days longer, earn $192 or 59 cents per day more, live $12.55 per capita higher, and save $68.44 more than the latter. Owing to reasons already given, these results are not wholly applicable to the class without dependents. It applies however to the earning power and average surplus. As in 1887 with those dependents who make $300 and under, fail on the average to meet expenses, although the cost per capita to those making $200 and under was $20 less than the average.

Range of total earnings by localities.—The following table shows, by localities, the total wages of the two classes of workers, and the number in each range:

Localities.	Average total earnings.		Number of workers in range of total earnings.															
			With dependents.								Without dependents.							
	With dependents.	Without dependents.	$200 and under.	$200 to $300.	$300 to $400.	$400 to $500.	$500 to $600.	$600 to $700.	Over $700.	Totals.	$200 and under.	$200 to $300.	$300 to $400.	$400 to $500.	$500 to $600.	$600 to $700.	Over $700.	Totals.
	$	$																
Almonte	435	294	....	3	4	4	3	....	1	15	12	13	11	2	2	2	1	43
Bowmanville ..	426	383	....	6	10	15	5	3	....	39	....	6	1	4	3	....	....	14
Brantford	477	298	....	5	21	17	14	7	2	66	15	14	12	7	2	....	....	50
Brockville	485	453	....	4	16	30	12	10	5	77	....	2	17	9	10	2	2	42
Carleton Place.	436	344	2	7	14	14	10	3	2	52	2	6	9	5	1	....	....	23
Chatham	439	297	2	19	55	47	19	13	8	163	14	6	16	2	4	....	....	42
Cobourg	498	269	....	3	18	12	12	3	6	54	14	17	16	1	...	....	....	48
Cornwall	362	287	2	13	15	9	6	....	....	45	4	12	4	2	1	....	....	23
Galt	459	342	....	4	5	9	8	1	1	28	3	5	4	7	1	....	..	20
Gananoque	504	319	....	4	5	8	7	5	1	30	4	5	4	4	....	1	....	18
Guelph	455	314	....	2	77	87	48	5	3	222	8	21	21	6	....	....	....	56
Hamilton	428	374	....	14	51	59	24	5	1	154	3	6	19	15	2	1	....	46
Kingston	483	360	....	7	30	33	27	13	6	116	5	17	20	21	3	1	....	67
London	449	320	1	17	44	82	27	8	4	183	9	15	13	9	2	....	....	48
Oshawa	521	421	....	1	11	8	5	8	5	38	....	1	1	3	1	....	....	6
Ottawa	510	530	....	2	3	1	6	4	....	16	....	....	1	1	1	....	1	4
Perth	427	390	....	1	16	25	4	....	....	46	....	1	7	8	....	....	....	16
Peterborough .	425	332	1	5	12	7	3	2	2	32	3	8	10	5	1	....	....	27
St. Catharines.	465	380	1	2	27	58	30	6	2	126	5	2	10	13	4	....	....	34
St. Thomas	486	385	....	1	6	9	4	3	1	24	....	3	1	....	2	....	....	6
Smith's Falls ..	455	....	....	1	2	6	....	2	....	11	....	....	....	....	....	....	..	......
Stratford	482	315	....	8	39	38	27	7	11	130	29	29	25	23	6	1	1	114
Toronto	527	317	....	2	14	54	63	12	13	158	37	33	32	29	10	2	....	143
Uxbridge	435	420	....	3	12	12	6	2	....	35	....	....	....	2	....	....	....	2
The Province. 1888	462	332	9	134	507	644	370	122	74	1,860	167	222	254	178	56	10	5	892
The Province. 1887	448	300	16	259	580	586	288	116	106	1,951	374	411	327	202	72	10	7	1,403

The reduction in the number of returns from last year is confined almost wholly to the lower ranges, and the total earnings of workers without dependents are 11 per cent. higher.

Cost of living.—The next item in the schedule is the cost of living, and from this standpoint the workers are classified in the following table:

Range of cost of living.	No. of workers.	Average per worker in range.						
		No. of dependents.	Days employed.	Earnings.		Cost of living.		Surplus.
				Total.	Average per day.	Total.	Per capita.	
With dependents:				$ c.	$ c.	$ c.	c.	$ c.
$200 and under	3	1.00	164.33	186 00	1 13	184 33	92 17	1 67
$200 to $250	17	2.76	213.94	267 73	1 25	233 76	62 09	33 97
$250 to $300	150	2.69	253.55	326 19	1 29	285 95	77 56	40 24
$300 to $350	283	2.87	263.87	372.95	1 41	330 04	85 30	42 91
$350 to $400	413	3.24	266.85	416 59	1 56	378 86	89 41	37 73
$400 to $450	382	3.64	268.95	468 16	1 74	428 59	92 34	39 57
$450 to $500	260	4.15	272.74	517 30	1 90	477 61	92 74	39 69
$500 to $600	265	4.62	274.74	578 72	2 11	543 19	96 54	35 53
Over $600	87	5.32	284.70	710 47	2 50	672 08	106 31	38 39
Average cost of living	1,860	3.63	267.89	462 44	1 73	423 44	91 36	39 00
Over average	842	4.32	273.57	546 08	2 00	507 86	95 39	38 22
Under average	1,018	3.06	263.19	393 26	1 49	353 62	87 00	39 64
Without dependents:								
$200 and under	248	.. ...	274.16	191 10	0 70	162 89	....	28 21
$200 to $250	195	....	277.54	309 17	1 11	229 31	....	79 86
$250 to $300	206	......	277.07	382 55	1 38	279 31	....	103 24
$300 to $350	146	......	268.18	425 68	1 59	326 10	....	99 58
$350 to $400	65	......	269.94	462 41	1 71	373 94	....	88 47
$400 to $450	17	......	281.00	507 79	1 81	425 45	....	82 34
$450 to $500	6	.....	291.00	540 17	1 86	484 67	....	55 50
$500 to $600	9	......	284.89	590 35	2 07	541 88	....	48 47
Average cost of living	892	......	274.64	331 70	1 21	257 38	....	74 32
Over average	430	......	273.60	421 24	1 54	324 73	....	96 51
Under average	462	.. ..	275.61	248 37	0.90	194 69	....	53 68
With and without dependents:								
$200 and under....	251	......	272.85	191 04	0 70	163 14	....	27 90
$200 to $250	212	......	272.44	305 85	1 12	229 66	....	76 19
$250 to $300	356	......	267.16	358 81	1 34	282 10	....	76 71
$300 to $350	429	......	265.34	390 89	1 47	328 70	....	62 19
$350 to $400	478	......	267.27	422 82	1 58	378 19	....	44 63
$400 to $450	399	......	269.46	469 85	1 74	428 46	....	41 39
$450 to $500	266	. ...	273.15	517 81	1 90	477 77	....	40 04
$500 to $600	274	.....	275.08	579 11	2 11	543 11	....	36 00
Over $600	87	....	284.70	710 47	2 50	672 08	....	38 39
Average cost of living..	2,752	....	270.08	420 07	1 56	369 62	....	50 45
Over average	1,344	......	272.38	508 15	1 87	467 57	....	40 58
Under average	1,408	......	267.88	335 99	1 25	276 11	....	59 88

Here again, as the cost of living increases, the number of dependents, days worked, total earnings and wages per day increase, while, excepting in the lowest range, the surplus shows no great change. Those who live above the average are in the minority, as was the case with total earnings. Their cost of living is $153.24 more than those who are under the average, but the cost per capita is only $8.39 higher. The increase in cost of living of workers without dependents is accompanied by increases in total earnings and wages per day, but the time of employment does not vary very much.

RANGE OF COST OF LIVING BY LOCALITIES.—The number of workers in the several towns and cities are given by ranges, according to their cost of living, in the following table:

Localities.	Average cost of living.		No. of workers in range of cost of living.															
			No. with dependents.									No. without dependents.						
	With dep.	Without dep.	$250 and under.	$250 to $300.	$300 to $350.	$350 to $400.	$400 to $450.	$450 to $500.	$500 to $600.	Over $600.	Total.	$200 and under.	$200 to $250.	$250 to $300.	$300 to $350.	$350 to $400.	Over $400.	Total.
	$	$																
Almonte	319	205	3	4	3	3	2	....	....	....	15	23	6	8	5	1	....	43
Bowmanville ..	359	277	2	7	12	9	4	4	1	....	39	3	3	4	1	1	2	14
Brantford	388	222	1	11	14	19	7	10	4	....	66	24	14	8	....	3	1	50
Brockville	417	319	1	6	13	15	20	8	10	4	77	1	6	12	10	8	5	42
Carleton Place.	439	289	....	5	8	12	9	5	6	7	52	6	2	4	5	5	1	23
Chatham	408	229	4	16	29	41	28	24	17	4	163	17	10	8	4	3	....	42
Cobourg	450	231	....	6	7	12	8	6	8	7	54	19	9	14	4	2	....	48
Cornwall	370	250	....	10	9	13	8	2	3	....	45	8	7	2	4	1	1	23
Galt	394	253	1	5	2	6	8	3	2	1	28	8	3	2	6	1	....	20
Gananoque	409	217	....	5	2	9	6	4	2	2	30	10	3	1	3	. ..	1	18
Guelph	431	233	....	10	37	45	49	31	42	8	222	13	22	18	3	....	....	56
Hamilton	424	318	1	5	24	44	30	27	17	6	154	2	3	18	14	6	3	46
Kingston	394	258	3	16	24	28	16	12	16	1	116	12	19	23	8	3	2	67
London	440	238	1	8	26	31	47	32	28	10	183	11	22	11	3	....	1	48
Oshawa	447	314	...	4	3	9	5	7	7	3	38	...	1	2	1	2	....	6
Ottawa	487	345	....	2	1	2	1	1	6	3	16	....	...	2	1	....	1	4
Perth	417	275	. ..	....	2	14	20	7	3	....	46	...	4	9	3	....	....	16
Peterborough..	400	238	1	3	7	9	5	2	4	1	32	5	10	12	....	....	....	27
St. Catharines.	414	290	1	2	23	30	37	19	12	2	126	5	3	8	14	3	1	34
St. Thomas	441	254	....	2	4	5	5	2	2	4	24	2	2	....	2	....	....	6
Smith's Falls ..	401	....	....	1	2	4	2	1	1	....	11	....	....	....	....	....	....	....
Stratford	410	261	1	15	21	30	27	15	20	1	130	37	21	21	15	12	8	114
Toronto	502	267	....	1	6	10	36	32	50	23	158	42	25	18	39	14	5	143
Uxbridge	396	305	...	6	4	13	2	6	4	....	35	....	....	1	1	....	....	2
The Province { 1888	423	257	20	150	283	413	382	260	265	87	1860	248	195	206	146	65	32	892
1887	412	243	50	174	355	481	335	279	195	82	1951	533	309	287	135	80	59	1403

As with total earnings, the decrease in the number of returns from 1887 is confined to the lower ranges. Nearly 25 per cent. of those with dependents live on $350 and under, while the cost of living of 89 per cent. of those in Toronto exceeds $400.

Surplus earnings.—The residue of a worker's earnings, when his cost of living is deducted, is here known as his "surplus." In this table the workers are classified according to range of surplus or deficit. It also shows the number who spend all they earn:

Earnings more than than cost of living.	Workers with dependents.						Workers without dependents.				
	No.	Dependents.	Days employed.	Total earnings.	Cost of living.	Surplus.	No.	Days employed.	Total earnings.	Cost of living.	Surplus.
		No.	No.	$ c.	$ c.	$ c.		No.	$ c.	$ c.	$ c.
$10 and under	108	3.63	263.26	425 70	420 39	5 31	46	273.87	219 58	214 16	5 42
$10 to $20	118	3.49	274.14	440 27	424 06	16 21	45	267.13	254 96	239 18	15 78
$20 to $30	115	3.37	272.31	443 76	418 16	25 60	36	269.36	276 31	250 68	25 63
$30 to $40	87	3.60	274.21	466 07	430 08	35 99	43	265.14	279 83	244 20	35 63
$40 to $50	105	3.68	272.49	469 57	422 70	46 87	61	267.61	301 72	254 38	47 34
$50 to $75	155	3.44	274.63	476 03	413 25	62 78	107	271.80	320 90	255 94	64 96
$75 to $100	155	3.33	280.86	500 57	411 90	88 67	113	275.15	368 06	277 76	90 30
$100 to $150	149	3.28	276.94	541 49	417 56	123 93	123	278.54	407 89	282 67	125 22
$150 to $200	81	3.01	289.96	591 24	414 98	176 26	71	280.27	466 17	291 67	174 50
$200 to $300	48	3.38	295.13	682 61	442 17	240 44	47	289.19	519 57	285 88	233 69
$300 to $400	11	3.09	307.73	784 95	450 50	334 45	9	308.89	628 56	288 89	339 67
$400 to $500	6	4.17	292.83	1001 75	555 17	446 58	1	307.00	767 50	300 00	467 50
Over $500	2	2.00	298.50	1020 00	466 50	553 50	3	277.33	838 00	323 00	515 00
Total	1,140	3.42	276.60	498 43	420 62	77 81	705	275.01	361 01	265 55	95 46
Earnings equal to cost of living ...	302	3.76	260.75	425 87	425 87	......	144	275.11	228 44	228 44	......
Earnings less than cost of living.						D'ficit					D'ficit
$10 and under	88	4.03	259.77	411 96	416 72	4 76	18	267.50	223 67	228 41	4 74
$10 to $20	77	4.32	259.85	412 75	427 73	14 98	6	274.33	183 98	200 35	16 37
$20 to $30	56	3.96	257.89	389 98	415 80	25 82	5	284.60	130 10	156 20	26 10
$30 to $40	53	3.94	243.15	405 27	440 70	35 43	9	265.44	175 67	212 33	36 66
$40 to $50	45	4.09	236.47	369 33	415 36	46 03	2	296.00	131 75	177 00	45 25
$50 to $75	49	3.90	243.98	371 70	432 42	60 72	......	......	......	.....	..... .
$75 to $100	19	5.37	252.37	392 38	481 81	89 43	3	202.67	282 33	372 00	89 67
$100 to $150	24	4.46	212.00	309 69	434 33	124 64	......	......	......	......	...
$150 to $200	5	3.20	229.20	333 87	504 60	170 73	......	......	.....	......	.....
Over $200	2	4.00	193.00	287 75	628 50	340 75	....	.....	......	. ...	......
Total	418	4.13	249.30	390 71	429 39	38 68	43	266 81	197 02	220 36	23 34
Average surplus ..	1,860	3.63	267.89	462 44	423 44	39 00	892	274.64	331 70	257 38	74 32
Over average	733	3.38	279.98	530 16	419 68	110 48	382	280.10	428 09	283 66	144 43
Under average ...	1,127	3.80	260.02	418 40	425 89	-7 49	510	270.55	259 51	237 69	21 82

We see that as a rule the surplus or deficit depends upon the wages derived. Those workers with dependents who have a surplus earn $107.72 more than those with a deficit, while the difference in the total cost of living is but $8.77. The average surplus of workers with dependents is $39. Over 60 per cent. of them come under this and average a deficit of $7.49. Those that have over the average are employed nearly twenty days longer, earn $111.76 more and spend $6.21 less than those who finish under the average. The average surplus to workers without dependents is $74.32. Three-sevenths of them exceed this, their average being $122.61 more than those who do not reach the average, In the following table both classes are combined and the averages are derived from the aggregates :

Range of surplus or deficit.	Workers with surplus.					Workers with deficit.				
	No.	Days.	Earnings.	Cost of living.	Surplus.	No.	Days.	Earnings.	Cost of living.	Deficit.
		No.	$ c.	$ c.	$ c.		No.	$ c.	$ c.	$ c.
$10 and under	154	266.43	364 14	358 79	5 35	106	261.08	379 98	384 74	4 76
$10 to $20	163	272.20	389 11	373 02	16 09	83	260.89	396 22	411 30	15 08
$20 to $30	151	271.61	403 84	378 23	25 61	61	260.08	368 68	394 53	25 85
$30 to $40	130	271.21	404 47	368 60	35 87	62	246.39	371 94	407 55	35 61
$40 to $50	166	270.69	407 89	360 85	47 04	47	239.00	359 22	405 21	45 99
$50 to $75	262	273.48	412 68	349 01	63 67	49	243.98	371 70	432 42	60 72
$75 to $100	268	278.45	444 70	355 34	89 36	22	245.59	377 37	466 84	89 47
$100 to $150	272	277.67	481 07	356 56	124 51	24	212.00	309 69	434 33	124 64
$150 to $200	152	285.43	532 82	357 38	175 44	5	229.20	333 87	504 60	170 73
$200 to $300	95	292.19	601 95	364 85	237 10	......	......	......	......	......
$300 to $400	20	308.25	714 58	377 78	336 80	2	193.00	287 75	628 50	340 75
$400 to $500	7	294.86	968 28	518 71	449 57	......	......	......	......	......
Over $500	5	285.80	910 80	380 40	530 40	......	......	......	......	......
Total	1,845	275.99	445 92	361 36	84 56	461	250.93	372 65	409 90	37 25
Earnings equal to cost of living	446	265.38	362 13	362 13	......	......	... ..	.....	......	......
Av. of all workers..	2,752	270.08	420 07	369 62	50 45	......	......	......	......	.. ..
Over average surplus.	1,080	279.92	482 96	356 88	126 08	......	......	......	.....	.....
Under av. surplus..	1,672	263.72	379 44	377 85	1 59	......	. ....	......	.....	......

One-sixth of the returns show a deficit and 67 per cent. a surplus. The aggregate savings of the 2,752 workers was $138,834 or $50.45 each. Less than 40 per cent. of the workers managed to exceed this average.

DISTRIBUTION OF SAVINGS COMPARED.—The following shows the distribution, by ranges, of surpluses and deficits, as compared with 1887, and with the annual average derived from the five years 1884–8 :

Year.	Workers with a surplus.												No. who spend all they earn.	Workers with a deficit.								
	$0 to $10.	$10 to $20.	$20 to $30.	$30 to $40.	$40 to $50.	$50 to $75.	$75 to $100.	$100 to $150.	$150 to $200.	$200 to $300.	Over $300.	Total.		$0 to $10.	$10 to $20.	$20 to $30.	$30 to $40.	$40 to $50.	$50 to $75.	$75 to $100.	Over $100.	Total.
With dependents :																						
1888......	108	118	115	87	105	155	155	149	81	48	19	1,140	302	88	77	56	53	45	49	19	31	418
1887	117	89	89	72	100	153	118	151	69	73	44	1,075	296	89	84	81	53	54	96	58	65	580
1884-8.....	89	88	88	64	102	136	125	142	80	62	28	1,004	433	60	51	50	34	36	50	32	49	362
Without dependents :																						
1888	46	45	36	43	61	107	113	123	71	47	13	705	144	18	6	5	9	2	...	3	. .	43
1887	116	83	84	62	73	108	115	164	86	56	19	966	261	64	35	22	12	17	18	5	3	176
1884-8.....	58	49	51	38	60	83	94	117	78	65	19	712	258	28	12	11	10	9	11	4	2	87

Of those workers with dependents who managed to effect a saving, about 40 per cent. have an average surplus from $50 to $150 in 1887 and 1888 and in the annual average. The greatest number of those without dependents who save is found in the range $100 to $150. Those in both classes who have deficits are to be found in the lowest range.

RANGE OF SURPLUS OR DEFICIT BY LOCALITIES.—The following table gives, by localities, the number who have surpluses or deficits in the several ranges and those who spend all they earn; also the numbers appearing in each range in 1887 and the average for the five years 1884-8:

Localities.	No. of workers in range of surpluses.												No. who spend all they earn.	No. of workers in range of deficits.								
	$0 to $10.	$10 to $20.	$20 to $30.	$30 to $40.	$40 to $50.	$50 to $75.	$75 to $100.	$100 to $150.	$150 to $200.	$200 to $300.	Over $300.	Total.		$0 to $10.	$10 to $20.	$20 to $30.	$30 to $40.	$40 to $50.	$50 to $75.	$75 to $100.	Over $100.	Total.
Almonte	6	2	4	2	2	15	5	8	3	4	3	54	1	3	...	...	...	...	...	...	...	3
Bowmanville .	5	3	2	3	1	7	8	10	4	4	...	47	2	...	1	...	...	2	1	...	...	4
Brantford	4	8	3	2	4	16	14	14	15	9	1	90	19	3	...	...	1	1	1	...	1	7
Brockville	3	5	6	8	7	11	21	12	10	14	4	101	2	2	7	2	...	1	2	2	...	16
Carleton Place	6	3	4	2	2	5	9	4	2	...	...	37	12	8	2	2	4	2	3	2	3	26
Chatham	6	6	6	7	7	14	15	19	11	5	1	97	80	2	4	2	9	6	...	2	3	28
Cobourg.	...	2	3	1	17	5	8	5	2	...	3	46	55	...	...	...	1	...	...	...	...	1
Cornwall	4	3	5	2	1	6	7	3	1	...	...	32	4	7	8	3	1	5	4	1	3	32
Galt	...	3	2	2	...	10	9	7	4	1	1	39	4	2	...	...	2	1	...	...	...	5
Gananoque ...	2	34	...	5	3	4	4	8	9	3	1	43	1	2	1	...	1	...	...	...	...	4
Guelph	16	30	21	18	25	41	25	21	4	2	...	203	9	17	19	11	6	4	7	1	1	66
Hamilton	9	8	10	7	13	16	12	11	4	1	...	91	56	10	5	8	8	9	6	3	4	53
Kingston	5	11	7	9	13	18	28	38	24	9	5	167	6	2	2	...	...	2	1	2	1	10
London	16	14	11	5	3	10	17	14	8	8	3	109	44	17	6	13	12	6	9	5	10	78
Oshawa . ..	4	2	...	5	3	...	6	5	5	6	...	36	3	1	2	...	...	...	...	1	1	5
Ottawa	1	...	2	...	5	...	3	1	...	...	1	13	3	1	2	1	...	...	...	...	...	4
Perth	4	5	8	5	2	4	2	8	3	2	...	43	1	...	4	4	3	3	4	...	...	18
Peterborough.	4	4	6	5	3	4	5	8	5	2	1	47	2	1	1	2	...	2	1	1	2	10
St. Catharines	5	11	11	12	12	19	16	17	13	6	...	122	11	14	6	3	2	...	1	...	1	27
St. Thomas...	3	2	...	2	2	2	6	3	...	2	1	23	4	...	1	1	...	...	...	1	...	3
Smith's Falls.	...	1	1	...	...	...	1	3	1	...	...	7	2	1	...	...	...	...	1	...	...	2
Stratford.....	14	13	20	15	22	28	28	26	7	10	5	188	45	2	2	2	4	1	...	...	...	11
Toronto	31	19	18	12	15	24	16	24	14	7	2	182	76	10	9	5	7	2	8	1	1	43
Uxbridge	6	4	1	1	4	3	3	3	3	..	..	28	4	1	1	2	1	...	...	...	...	5
The Province:																						
1888........	154	163	151	130	166	262	268	272	152	95	32	1,845	446	106	83	61	62	47	49	22	31	461
1887........	233	172	173	134	173	261	233	315	155	129	63	2.041	557	153	119	103	65	71	114	63	68	756
1884-8	147	137	139	102	162	219	219	259	158	127	47	1,716	691	88	63	61	44	45	61	36	51	449

In this table the total number of workers is given. Over one-third of the workers in Carleton Place and London, and nearly one-half of those in Cornwall, failed to make their earnings meet their cost of sustenance. In Cobourg the returns showed but a solitary deficit.

RELATION OF EARNINGS TO COST OF LIVING.—The following comparative summary divides the workers into three classes, those who have a surplus (1st), those who spend all they earn (2nd) and those who have a deficit (3rd). It gives the number in each division with the accompanying statistics of time employed, earnings and cost of living for the five years 1884–8, together with the annual average:

Schedule.		1888.	1887.	1886.	1885.	1884.	Average 1884-8.
With dependents:							
No. of workers	1st	1,140	1,075	1,061	950	794	1,004
	2nd	302	296	277	410	884	433
	3rd	418	580	384	245	181	362
No. of dependents	1st	3.42	3.33	3.45	3.41	3.09	3.34
	2nd	3.76	3.98	3.68	3.59	3.47	3.70
	3rd	4.13	4.01	4.13	3.97	3.82	4.01
No. of days employed	1st	276.60	274.01	279.96	278.53	280.37	277.89
	2nd	260.75	262.57	267.78	267.14	258.78	263.40
	3rd	249.30	226.06	247.83	233.61	209.64	233.29
Total yearly earnings....$	1st	498.43	509.72	490.42	493.21	510.95	500.55
	2nd	425.87	421.98	398.89	396.59	385.86	405.84
	3rd	390.71	347.14	375.16	356.12	300.25	353.88
Average daily earnings ..$	1st	1.80	1.86	1.76	1.77	1.82	1.80
	2nd	1.63	1.61	1.49	1.49	1.49	1.54
	3rd	1.57	1.54	1.51	1.52	1.43	1.52
Total cost of living ......$	1st	420.62	416.98	407.46	400.14	398.70	408.78
	2nd	425.87	421.98	398.89	396.59	385.86	405.84
	3rd	429.39	396.79	435.52	412.86	374.88	409.89
Cost of living per capita..$	1st	95.16	96.30	91.56	90.73	97.48	94.19
	2nd	89.47	84.73	85.23	86.40	86.32	86.35
	3rd	83.70	79.20	84.90	83.07	77.78	81.81
Without dependents:							
No. of workers	1st	705	966	671	671	548	712
	2nd	144	261	202	300	381	258
	3rd	43	176	89	61	65	87
Days employed	1st	275.01	274.92	273.92	279.15	275.77	275.75
	2nd	275.11	268.79	270.69	277.99	265.47	271.51
	3rd	266.81	248.17	235.12	218.11	229.82	239.61
Total yearly earnings....$	1st	348.24	338.95	354.00	345.03	373.32	351.91
	2nd	228.44	231.97	207.31	218.87	205.39	218.40
	3rd	197.02	184.37	181.06	160.67	147.79	174.18
Average daily earnings ..$	1st	1.27	1.23	1.29	1.24	1.35	1.28
	2nd	.83	.86	.77	.79	.77	.80
	3rd	.74	.74	.77	.74	.64	.73
Cost of living............$	1st	265.55	252.44	252.13	231.91	251.88	250.78
	2nd	228.44	231.97	207.31	218.87	205.39	218.40
	3rd	220.36	210.03	216.25	191.10	191.48	205.84

We here observe that this order of relation of earnings to cost of living corresponds to an increase in the number of dependents, or that those who have a surplus have on the average the smallest number of dependents, while those with a deficit have the largest number. In the same order we find for both classes of workers that the passing from surplus to deficit is accompanied by a decrease in the time employed, the total earnings, the daily earnings and the cost of living per capita. In 1888, as well as in the annual average the total cost of living of workers with dependents shows but little variation in the three divisions, the increase in the number of dependents counteracting the forced economy per capita.

The following will show the numbers in the classes by sex and age appearing in the three divisions, and the percentage that each division forms of total returns:

Division.	With dependents.							Without dependents.						
	m.o.o	m.o.t.	m.o.b.	m.o.t.	Total.	Per cent.		m.o.b.	m.u.b.	f.o.b.	f.u.b.	Total.	Per cent.	
						1888.	1884-8						1888.	1884-8
1st	418	716	6	....	1,140	61.3	55.8	584	8	113	....	705	79.0	67.4
2nd	84	217	1	....	302	16.2	24.1	84	14	38	8	144	16.2	24.4
3rd	77	336	2	3	418	22.5	20.1	29	2	9	3	43	4.8	8.2
Total	579	1,269	9	3	1,860	100.0	100.0	697	24	160	11	892	100.0	100.0

Of male householders, 13 per cent. of the owners and over 26 per cent. of the tenants have deficits. The three female tenants are in the deficit division. Those who just spend all they earn form 16.2 per cent. of each class of workers, with and without dependents, while the proportion of those who have surpluses shows an increase in both classes over the annual average percentage.

The number of male householders forming the chief workers affected in the three divisions are shown by localities in the appended table. They are separated as owners and tenants:

Division.	Almonte.	Bowmanville.	Brantford.	Brockville.	Carleton Place.	Chatham.	Cobourg.	Cornwall.	Galt.	Gananoque.	Guelph.	Hamilton.	Kingston.	London.	Oshawa.	Ottawa.	Perth.	Peterborough.	St. Catharines.	St. Thomas.	Smith's Falls.	Stratford.	Toronto.	Uxbridge.	Total.
Owner:																									
1st	7	13	18	23	8	36	9	6	8	11	40	24	15	37	10	4	9	9	32	11	5	56	16	11	418
2nd	1	..	2	1	4	23	11	1	2	..	4	11	1	11	1	..	1	..	1	1	..	3	2	3	84
3rd	..	1	2	4	7	8	1	6	..	..	11	6	..	14	..	1	4	1	3	..	..	4	3	1	77
Tenant:																									
1st	7	19	31	38	7	37	11	8	14	15	108	36	88	34	20	5	18	10	63	7	2	50	73	15	716
2nd	..	2	10	..	6	40	22	2	1	..	5	34	4	30	2	3	..	2	6	2	2	11	32	1	217
3rd	..	3	3	11	18	18	..	20	3	4	54	43	8	53	5	3	14	9	21	3	2	6	31	4	336

In Carleton Place, Cornwall, Hamilton and London the greatest of number tenants is found in the third division or those with deficits. In Cobourg the greatest number, owners and tenants, is found in the second division.

Of the 48 other males and females who have deficits, we find, on further examination of details, 6 in Cornwall, 4 in Hamilton, 11 in London and 9 in Toronto.

WEEKLY WAGES.

TABLE No. I.—Showing by occupations and sub-occupations the average hours employed and wages earned for a representative week in the last six months of 1888 in 227 cities, towns and villages of Ontario, based on returns of 25,006 workpeople collected from employers and 2,752 collected from employés.

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Aerated water maker	m.o.	57.33	8 13
	m.u.	51.00	3 00
Agent	m.o.	60.00	15 94
Agricultural implement works:			
Erector	“	58.85	11 74
Various, n.e.s.	m.o.	58.07	7 93
	m.u.	59.75	3 23
Apprentice	m.o.	57.78	3 66
	m.u.	57.07	2 60
	f.o.	53.92	2 09
	f.u.	53.92	1 91
Ash gatherer	m.o.	66.00	8 00
Axe factory employé:			
Bit drawer	“	43.75	14 88
Poll maker	“	50.75	9 82
Various, n.e.s.	“	48.72	9 43
Baker	“	59.11	10 08
Barber	“	68.86	9 64
Barrel heading maker	m.o.	54.11	7 12
	m.u.	55.00	3 67
Bartender	m.o.	70.67	8 00
Basket maker	“	59.00	8 25
Bell hanger	“	55.00	12 00
Blacksmith	“	59.03	10 47
Blacksmith's helper	“	58.09	7 08
Biscuit and confectionery works:			
Confectioner	m.o.	59.47	9 48
Packer	m.o.	59.25	8 25
	f.o.	54.00	2 91
	f.u.	52.64	2 41
Various	m.o.	59.72	4 18
	m.u.	58.40	3 28
	f.o	60.00	5 00
	f.u.	60.00	3 50
Boat builder	m.o.	59.50	10 06
Boiler maker	“	59.87	11 88
Boiler maker's helper	“	58.71	7 32
Bolt maker	“	59.69	9 86
Bookbindery employé:			
Binder	m.o.	54.07	9 72
	f.o.	56.00	3 67
	f.u.	53.75	3 41
Cutter	m.o.	54.83	10 20
Finisher	“	55.00	12 21
Folder	m.o.	54.50	5 96
	f.o.	52.72	3 62
	f.u.	52.86	2 03
Forwarder	m.o.	55.00	9 25
Pager	f.o.	52.00	4 33
Ruler	f.o.	53.00	3 75
	m.o.	54.58	13 01
Sewer	f.o.	53.13	4 04
Bookkeeper	m.o.	57.57	11 43
	f.o.	54.44	5 44

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Boot and shoe factory employe:			
Bottomer	m.o.	57.80	9 15
Cutter	m.o.	56.96	9 98
	f.o.	59.50	4 50
Finisher	m.o.	59 50	8 00
Fitter	f.o.	59.29	4 47
Heeler	m.o.	57.83	7 83
Laster	“	58.63	8 75
Liner	“	60.50	8 50
Machine worker	m.o.	56.13	9 66
	f.o.	50.28	5 55
Trimmer	m.o.	60.00	10 18
Various	m.o.	59.57	7 36
	m.u.	60.00	2 50
	f.o.	59.63	4 64
Bottler	m.o.	59.32	7 20
	m.u.	60.00	2 34
	f.o.	55.83	5 59
	f.u.	58.75	2 28
Box maker (wood)	m.o.	57.73	8 36
Brass, worker in:			
Buffer	“	57.80	8 66
Finisher	“	59.13	10 23
Moulder	“	60.00	11 68
Various	“	60.00	9 98
Brewer	“	65.00	23 33
Brewer's helper	“	61.60	6 15
Bridge builder	“	58.76	8 13
Bricklayer	“	57.77	16 06
Brickyard employé:			
Burner	“	70.36	11 33
Moulder	“	60.00	13 63
Off-bearer	“	54.91	8 32
Pallet boy	m.u.	57.80	3 22
Setter off	m.o.	60.00	9 33
Shifter	“	57.56	11 20
Temperer	“	58.21	9 67
Wheeler	“	60.00	9 21
Various	“	52.36	7 52
	m.u.	60.00	4 09
Brush and broom works:			
Broom maker	m.o.	55.36	9 56
Brush maker	“	58.36	10 58
Various	m.o.	57.35	7 18
	m.u.	56.00	2 62
	f.o.	58.24	3 43
	f.u	57.00	2 67
Butcher	m.o.	66.20	8 55
Button factory employé.	m.o.	58.00	7 02
	m.u.	57.44	2 23
	f.o.	58.00	3 16
	f.u.	58.00	2 13
Canning factory employé	m.o.	59.20	7 11
	m.u.	56.32	3 02
	f.o.	52.38	3 56
	f.u.	50.62	2 28

NOTE.—The letters n.e.s. means "not elsewhere specified." For example, under Agricultural implements "various" does not include blacksmiths, machinists, moulders, woodworkers, etc., which latter have been collated in bulk from all industries.

TABLE No. I.—WEEKLY WAGES—*Continued.*

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Canoe builder	m.o.	60.00	9 15
Caretaker	“	59.67	8 33
Carpenter	m.o.	55.52	10 35
Carpenter (ship)	“	60.67	12 17
Carpet weaver	m.o.	59.83	8 86
	f.o.	59.87	6 59
Carriage works employé:			
Carriage maker	m.o.	60.24	9 44
Finisher	“	60.00	8 02
Iron worker	“	59.71	10 07
Machine hand	“	58.25	8 15
Sewer (machine)	f.o.	45.43	4 79
Trimmer	f.o.	44.83	3 83
	m.o.	58.30	10 40
Various, n. e. s.	“	59.31	8 41
Carriage woodwork factory employé:			
Machine hand	“	58.00	7 67
Sawyer	“	59.67	8 54
Sorter	“	60.00	10 58
Various n. e. s	“	58.47	6 27
Carter	“	63.75	8 75
Cashier	f.o.	56.40	4 95
	f.u.	54.50	3 00
Caulker	m.o.	60.00	12 00
Cellarman	“	60.86	8 00
Chain maker	“	57.00	13 00
Chipper (iron)	“	59.61	8 57
Cider mill employé	“	55.58	6 59
Cigar factory employé:			
Booker	m.o.	44.00	4 38
	f.o.	52.00	3 85
Bunch breaker	“	59.00	5 80
Cigar maker	f.o.	53.86	6 98
	m.o.	48.78	8 18
	m.u.	51.75	3 28
Cigarette maker	m.o.	55.00	7 80
	f.o.	55.00	5 23
Packer	f.o.	53.75	5 32
	m o.	48.00	8 43
Roller	“	54.57	10 68
Stripper	m u.	51.84	2 28
	f.o.	52.05	3 04
	f.u.	54.78	1 98
Various	m.o.	54.75	4 69
	f.o.	52.25	3 83
Clerk (office)	m.o.	57.67	10 51
	f.o.	56.00	3 88
Collector	m.o.	50.38	10 63
Cooper	“	58.64	9 50
Coppersmith	“	64.00	10 96
Core maker	“	58.78	7 07
Corset factory employé:			
Cutter	m.o.	57.00	9 00
	f.o.	53.35	4 14
Finisher	“	55.31	4 19
Stitcher	“	57.50	4 80
Various	f.o.	56.71	4 06
	m.o.	54.71	5 43
Cotton mill employé:			
Back boy	m.u.	55.46	2 21
Beamer	m.o.	60.50	9 11
Bleacher	“	59.27	5 90
Carder	“	60.00	6 63
Card boy	m.u.	59.43	2 83
Cloth examiner	m.o.	60.00	7 50
	f.o.	60.00	4 00
Cotton mill employé:—*Con.*			
Creel tender	m.u.	60.00	2 75
Doffer	m.u.	58.83	2 36
	m.o.	53.50	4 02
	f.u.	58.21	2 14
Drawer in	f.o.	57.33	4 57
	m.o.	60.00	6 10
Dresser	“	57.67	8 39
Dyer	“	60.00	16 00
Dyer's helper	“	57.39	6 22
Finisher	m.o.	61.79	6 85
	f.o.	56.17	3 99
Frame tender	f.o.	60.00	4 85
	f.u.	60.00	2 69
Grinder	m.o.	59.38	7 54
Intermediate tender	f.o.	55.00	3 88
Lap tender	m.u.	60.00	3 88
	m.o.	60.00	6 63
Loom fixer	“	60.00	10 07
Packer	“	60.00	5 27
Picker tender	m.o.	56.92	5 54
	m.u.	55.00	2 70
Reeler	m.o.	60.00	6 75
	f.o.	60.00	3 80
	f.u.	60.00	3 31
Rover	m.o.	52.67	4 55
	f.o.	60.00	4 70
Section hand	m.o.	57.20	8 45
Slasher tender	“	60.67	9 00
Slubber	f.o.	51.33	4 45
Speeder	“	55.62	4 43
Spinner	f.o.	54.92	3 92
	m.o.	57.65	7 68
	f.u.	60.00	3 25
Spooler	f.u.	58.89	2 67
	f.o.	57.17	3 76
Stripper	m.o.	56.80	5 45
Sweeper	m.o.	61.00	6 10
	m.u.	58.33	1 92
	f.o.	60.00	3 85
Twister	m.o.	60.00	5 90
	m.u.	56.25	2 36
	f.u.	60.00	2 40
	f.o.	56.67	3 88
Warper	“	57.50	4 99
Waste picker	“	60.60	3 70
Weaver	f.o.	59.02	5 50
	f.u.	60.00	3 25
	m.o.	59.41	6 85
Web drawer	“	51.79	5 56
Winder	f.o.	60.00	4 18
	f.u.	60.00	3 59
Various n. e. s.	m.o.	59.81	8 22
	m.u.	59.67	3 12
	f.o.	60.00	5 58
	f.u.	60.00	3 45
Deliveryman	m.o.	65.61	7 63
Distillery employé	“	67.75	13 60
Draughtsman	“	50.60	12 77
Dressmaker	f.o.	53.59	6 00
Dressmaker's assistant	“	58.43	3 40
Driller (iron)	m.o.	59.12	7 89
Dyeing and cleaning works employé	m.o.	60.00	7 17
	m.u.	60.00	1 71
	f.o.	60.00	3 42
Edge tool maker	m.o.	56.43	16 36

TABLE No. I.—WEEKLY WAGES—*Continued.*

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Electric light employé:			
Electrician	m.o.	69.56	13 48
Lineman	"	68.67	9 67
Trimmer	"	68.00	8 90
Various	"	66.71	9 57
Electrotyper	"	58.50	18 75
Embroiderer (machine)	f.o.	50.00	7 00
Emery wheel maker	m.o.	60.00	8 75
Engineer (stationary)	"	62.49	9 45
Envelope maker	f.o.	54.56	4 08
	f.u.	54.80	3 80
Errand boy	m.o.	58.00	2 58
	m.u.	52.14	1 95
Fancy goods, maker of	m.u.	55.00	3 08
	m.o.	56.15	10 18
	f.o.	54.05	3 28
Fanning mill maker	m.o.	58.00	8 59
Felt and gravel roofer	"	58.25	9 00
File cutter	"	51.75	7 79
Finisher (iron)	"	60.19	11 80
Fireman	"	62.73	7 56
Fitter (iron)	"	57.68	10 30
Fitter's assistant	"	59.17	7 77
Fitter (gas and steam)	"	52.68	12 07
Fitter (wood)	"	60.00	9 05
Flax mill employé	m.o.	60.00	6 78
	m.u.	60.00	2 57
Flour and oatmeal mill:			
Dryster	m.o.	63.00	7 81
Miller	"	65.31	8 83
Packer	"	59.75	8 00
Various	m.o.	61.22	6 78
	m.u.	60.00	3 94
Foreman:			
Agricultural implements	m.o.	60.00	14 86
Blacksmith	"	59.67	14 97
Boat builder	"	60.00	16 75
Boiler maker	"	59.80	16 20
Bookbinder	"	54.80	19 17
Boot and shoe factory	"	56.25	17 00
Bricklayer	"	52.83	20 51
Brickyard	"	64.00	14 67
Broom and brush maker	"	60.00	15 38
Canning factory	"	67.00	13 11
Carpenter	"	55.46	14 05
Carpet factory	"	59.80	14 00
Carriage factory	"	60.00	12 52
Cigar factory	"	58.20	13 40
Cooper	"	64.00	13 51
Cotton mill	"	60.04	15 05
Envelope maker	"	56.00	26 25
Foundry	"	61.00	19 33
Furniture factory	"	59.50	16 08
Gas works	"	63.75	14 38
Knife maker	"	60.00	15 06
Knitting factory	"	59.06	13 94
Lumber mill	"	63.15	18 78
Machinist	"	59 56	16 82
Miller	"	65.00	13 40
Moulder	"	59.90	16 52
Organ reed factory	"	55.00	19 00
Painter	"	59.86	13 84
Paper box and bag maker	"	55.33	15 39
Paper mill	"	58.67	13 82
Pattern maker	"	59.60	17 05
Piano and organ factory	"	60.00	17 90
Planing mill	"	59.47	13 29
Foreman:—*Continued.*			
Plasterer	m.o.	48.50	16 47
Plumber	"	57.00	17 25
Pressman	"	52.60	18 81
Printer	"	58.06	12 46
Railway	"	59.99	11 44
Sash and door factory	"	58.57	11 79
Stave factory	"	59.75	11 50
Stereotyper	"	48.00	14 50
Stone cutter	"	57.20	23 75
Store foundry	"	59 60	15 75
Tannery	"	59.37	13 03
Tinsmith	"	60.00	13 25
Trunk maker	"	52.29	15 43
Vinegar maker	"	58.00	16 33
Wireworker	"	60.00	16 41
Woodworker	"	60.00	15 67
Woollen mill	"	60.96	14 78
Various	"	59.00	13 87
Forewoman	f.o.	56.32	7 11
Foundry employé n. e. s.	m.o.	59.54	8 50
Fruit basket maker	m.o.	60.00	6 24
	m.u.	50.40	3 12
Furnace men	m.o.	59.59	9 72
Furniture factory employé:			
Cabinetmaker	"	57.78	9 39
Caner	f.o.	60.00	2 28
Carver	m.o.	57.81	10 76
Chair maker	"	58.88	8 54
Finisher	"	58.75	8 80
Gluer	"	59.80	6 67
Sawyer	"	59.41	8 73
Upholsterer	m.o.	57.16	10 43
	f.o.	53 00	3 90
Various	f.o.	49.11	3 18
	m.o.	59.05	5 36
	m.u.	59.62	2 67
	f.u.	60.00	1 87
Fur manufacturing:			
Blocker	m.o.	53.25	4 38
Cutter	"	53.50	14 33
Finisher	f.o.	53.60	5 48
Machine operator	"	53.44	4 84
Sewer	"	53.90	3 55
Gardener	m.o.	64.00	6 80
Gas works employé:			
Lamplighter	"	34.61	7 37
Meter repairer	"	77.43	14 77
Pipe layer	"	58.42	8 69
Stoker	"	69.78	12 77
Various	"	61.42	9 13
Glass works employé:			
Bottle blower	"	47.20	21 16
Chimney gatherer	"	44.00	11 60
Chimney maker	"	44.00	22 33
Glazier	"	56.00	10 31
Glove factory employé:			
Cutter	m.o.	57.63	11 37
Glove maker	f.o.	55.59	4 01
Various	m.o.	60.00	6 17
Grain buyer	"	64.00	8 33
Grinder (iron)	"	56.68	9 89
Haircloth weaver	f.o.	58.00	4 56
Handle factory employé:			
Finisher	m.o.	59.13	7 33
Lathe hand	"	60.00	8 00
Various	"	58.57	6 19

TABLE No. I.—WEEKLY WAGES—*Continued.*

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Harness maker	m.o.	59.80	8 06
	f.o.	54.00	2 67
Hat factory employé:			
Trimmer	"	55.00	5 47
Various	m.o.	53.60	9 26
Horse shoer	"	59.81	10 09
Hostler	"	69.00	7 33
Iron turner	"	58.14	10 66
Japanner	"	57.67	6 69
Jewellery manufacturing:			
Engraver	m.o.	51.83	9 92
	f.o.	45.67	3 76
Jeweller	m.o.	50.71	10 00
Various	m.o.	50.29	10 93
	f.o.	43 50	3 55
Knife factory employé:			
Knife maker	m.o.	60.00	11 15
Various n. e. s.	m.o.	59.61	7 90
	m.u.	57.08	3.44
Knitting factory employé:			
Cutter	f.o.	54.00	4 39
Cutter's helper	m.u.	62.00	3 10
Finisher	f.o.	57.66	4 08
	f.u.	54.00	3 12
Folder	f.o.	54.80	4 39
Knitter	m.o.	58.33	7 31
	m.u.	58.33	2 25
	f.o.	56.77	3 84
	f.u.	56.83	3 17
Machine worker	f.o.	54.60	4 69
Mender	"	53.31	3 60
Packer	f.o.	59.00	3 93
	m.o.	59.29	6 14
Press hand	m.o.	55.17	8 63
	f.o.	52.00	4 99
Seamer	"	56.78	5 35
Various	f.o.	54.88	5 17
	m.o.	60.00	5 81
	m.u.	58.33	2 85
	f.u.	54.27	2 46
Laborer (general)	m.o.	58.12	7 20
Laborer (builder's)	"	51.16	8 72
Lace maker	m.o.	59.00	4 22
	m.u.	59.00	2 00
	f.o.	59.00	4 33
Lather	m.o.	40.00	12 97
Lead worker	"	58.83	10 61
Lime burner	"	67.83	9 24
Lithographing employé:			
Artist	"	47.50	15 25
Engraver	"	46.78	14 44
Lithographer	"	53.67	9 44
Stone grinder	"	52.00	7 25
Transferrer	"	52.40	12 60
Various, n. e. s	m.o.	53.67	6 17
	m.u.	52.91	2 59
Lock works employé	m.o.	60.00	8 25
Lumber mill employe:			
Blockman	"	66.00	9 72
Butting sawyer	"	63.50	7 77
Canter	"	64.20	7 83
Culler	"	62.30	9 04
Edger	"	62.23	8 32
Filer	"	64.76	14 72
Jacker	"	62.82	7 28
Lath maker	"	65.45	5 47
Log measurer	"	69.00	8 50
Lumber mill employé:—*Continued.*			
Marker	m.o.	64.29	8 43
Piler	"	62.79	7 70
Sawyer	"	61.31	10 55
Setter	"	61.97	8 85
Slabber	"	64.88	7 65
Slash table	"	60.00	7 62
Sorter	"	64.77	8 93
Tail sawyer	"	61.59	7 73
Trimmer	"	64.50	8 37
Yardman	"	60.23	8 00
Various	m.o.	63.43	7 86
	m.u.	64.91	4 06
Machinist	m.o.	58 42	10 47
Machinist's assistant	"	59.29	7 04
Maltster	"	63.36	12 42
Malt house hand	"	61.58	7 93
Mantle maker	f.o.	58.05	5 90
Marble cutter	m.o.	59.10	11 50
Marble polisher	"	58.80	7 59
Mason (stone)	"	54.31	16 18
Mattrass maker	"	55.00	7 33
Mat weaver	"	58.00	7 45
Messenger	"	57.50	8 75
Milliner	f.o.	57.79	8 05
Milliner's assistant	"	59.75	2 81
Millwright	m.o.	61.95	12 76
Miscellaneous, n. e. s.	m.o.	60.75	9 05
	m.u.	57.36	3 33
	f.o.	56.92	3 45
	f.u.	53.67	3 17
Moulder	m.o.	57.38	12 35
Moulder's assistant	"	60.60	7 14
Newspaper and printing office employé:			
Advertising agent	"	48.00	21 17
Editor	"	51.88	19 32
Mailer	"	41.92	5 75
" assistant	m.u.	19.60	1 65
Press feeder	m.u.	55.83	3 35
	m.o.	54.10	5 03
	f.o.	54.75	3 94
Pressman	m.o.	54.50	10 34
Printer	m.o.	57.61	9 05
	f.o.	59.40	3 86
Proof reader	m.o.	44.50	11 50
Reporter	"	53.97	11 07
Route boy	m.u.	13.28	1 62
Various	m.o.	52.00	10 70
Novelty workers (brass)	m.o.	60.00	4 92
	m.u.	60.00	2 52
Nursery and fruit growing employé	m.o.	61.06	6 03
	m.u.	60.00	4 25
	f.o.	43.20	2 86
Office boy	m.o.	56.40	2 70
	m.u.	56.93	2 51
Oil refinery employé:			
Stillman	m.o.	71.50	11 88
Treater	"	60.00	11 25
Yardman	"	60.00	8 38
Various	"	60.00	9 07
Organ reed factory employé	m.o.	50.00	8 62
	m.u.	50.00	2 87
Packer (general)	m.u.	61.72	3 68
	m.o.	59.82	7 63
	f.o.	55.50	4 27
	f.u.	55.09	2 58

TABLE No. I.—WEEKLY WAGES—*Continued.*

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Painter (general)	m.o.	57.91	9 49
Painter (ornamental)	"	52.60	14 65
Paper hanger	"	52.77	12 56
Paper mill employé:			
Bag maker	m.o.	57.00	7 25
	f.o.	58.57	3 76
	f.u.	57.00	2 42
Box maker	f.u.	52.00	3 31
	m.o.	57.00	6 38
	f.o.	50.87	4 06
Cutter	f.o.	72.00	3 60
	m.u.	66.00	1 50
Finisher	f.o.	61.46	3 85
	m.o.	59.00	8 42
Machine tender	"	66.25	9 85
Machine tender's helper	"	66.00	6 98
Paper maker	"	60.00	11 63
Paper sorter	f.o.	58.00	3 90
Pulp machine hand	m.o.	63.43	5 91
Rag boiler	"	57.00	8 58
Rag cutter	"	57.00	9 00
Rag engineer	"	65.54	11 31
Rag engineer's helper	"	64.67	8 03
Rag picker	f.o.	60.00	4 40
Rag sorter	"	57.35	4 96
Rag washer	m.o.	60.00	9 90
Various	m.o.	59.78	7 57
	m.u.	60.00	2 40
	f.o.	43.00	3 00
Pattern maker	m.o.	59.02	11 85
Pavior (street)	"	60.00	10 50
Photographing:			
Operator	"	47.75	14 50
Printer	"	52.67	7 50
Piano and organ factory employé:			
Action maker	m.o.	58.87	10 22
Action regulator	"	59.67	12 49
Bellows maker	"	60.00	12 22
Case maker	"	59.50	11 60
Driller	"	60.00	7 47
Filler	"	59.67	7 46
Finisher, action	"	60.00	14 00
Finisher, fly	"	60.00	11 68
Finisher, general	"	58.30	9 32
Key maker	"	60.00	13 21
Piano bellyman	"	60.00	13 00
Polisher and varnisher	"	59.42	10 16
Rubber	"	59.50	10 70
Sounding board maker	"	60.00	14 33
Stringer	"	60.00	11 67
Tone regulator	"	60.00	22 33
Trimmer	"	59.73	10 16
Tuner	"	59.90	13 09
Veneerer	"	60.00	9 43
Various	"	60.00	10 40
Pickling and preserving employé	m.o.	59.80	7 51
	f.o.	57.15	3 00
Planer (iron)	m.o.	59.00	8 55
Plauing mill employé:			
Bench hand	"	59.97	9 46
Machine hand	"	58.89	8 88
Planer	"	60.47	8 40
Various, n. e. s	m o.	58.38	5 97
	m.u.	58.88	2 84
Plasterer	m.o.	49.12	13 75
Plaster mill employé	"	60.00	6 50
Plumber	m.o.	53.88	12 31
Pocket book maker	m.o.	58.00	13 06
	f.o.	56.00	3 51
Polisher (metal)	m.o.	56.72	10 29
Pork packer	"	56.63	7 48
Porter	"	59.98	7 78
Pump maker	"	60.00	8 75
Quarryman	"	58.71	8 46
Railway employé:			
Agent and operator	m.o.	79.83	10 00
	f.o.	72.00	6 00
Baggageman and porter	m.o.	70.56	7 39
Boiler washer	"	68.00	10 10
Brakeman	"	60.63	8 54
Car builder	"	59.64	10 48
Car cleaner	m.o.	69.07	7 69
	f.o.	60.00	5 04
Car repairer	m.o.	59.79	9 58
Coalman	"	80.00	9 60
Conductor	"	61.97	13 26
Despatcher	"	64.00	17 00
Engineer	"	70.83	17 67
Engine turner	"	68.57	11 75
Fireman	"	64.63	11 41
Inspector	"	65.00	13 03
Laborer	"	60.00	7 48
Oiler	"	67.50	8 50
Pumpman	"	69.38	8 69
Sectionman	"	60.02	7 47
Wheelman	"	61.00	7 95
Wiper	"	80.00	8 00
Yardman	"	84.00	10 00
Various, n. e. s	"	66.97	9 17
Rivet boy	m.o.	59.00	3 97
	m.u.	59.25	3 80
Rivetter	m.o.	57.35	9 48
Rolling mill employé, n. e. s.	"	59.93	19 03
Rope and twine making:			
Hemp dresser	"	58.00	6 63
Spinner	"	58.80	9 00
Various	m.o.	59.00	5 14
	m.u.	58.40	2 05
	f.o.	59.00	3 67
Saddler	m.o.	60.00	9 49
Saddlery hardware maker	"	60.00	7 65
Safe works employé:			
Safe maker	"	59.71	19 30
Various, n. e. s	"	56.04	10 10
Salesman	m.o.	60.67	9 32
	m.u.	65 00	3 25
Saleswoman	f.o.	60.05	4 64
	f.u.	57.67	2 50
Salt works employé	m.o.	65.00	7 47
Sash, door and blind factory employé:			
Sash and door maker	"	58.56	9 92
Various, n. e. s	m.o.	57.28	6 64
	m.u.	58.57	5 03
Saw works employé:			
Handle maker	m.o.	59.50	10 50
Saw filer	"	64.00	10 07
Saw maker	"	59.07	14 19
Various, n. e. s	"	58.83	8 85
Scale maker	"	65.10	10 00
Seed growing employé	m.o.	60.00	7 41
	f.o.	60.00	3 10

TABLE No. I.—WEEKLY WAGES—*Continued.*

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Sewing machine factory :			
Assembler	m.o.	59.00	9 25
Fitter	"	49.17	10 61
Tool maker	"	60.00	13 50
Various, n. e. s.	m.o.	53.02	6 38
	m.u.	47.75	2 59
	f.o.	57.50	4 08
Shingle mill employé :			
Jointer	m.o.	62.67	9 42
Sawyer	"	62.44	9 70
Various	"	62.79	8 92
Shipper	"	59.94	8 82
Shirt and collar maker	m.o.	52.67	9 00
	m.u.	52.00	3 73
	f.o.	54.88	4 23
Shoemaker	m.o.	57.16	10 12
Shovel and spade maker	"	60.00	9 77
Show case maker	"	59.00	9 67
Silver plater	m.o.	59.94	9 39
	f.o.	60.00	4 11
Soap factory employé :			
Boiler	m.o.	57.08	10 29
Wrapper	m.o.	59.50	5 22
	f.o.	50.00	4 00
Various	m.o.	57.49	6 91
	m.u.	53.67	2 26
Stableman	m.o.	69.65	9 34
Stave mill operative :			
Bolt puller	"	50.00	7 75
Culler	"	53.33	7 08
Cutter	"	56.71	14 14
Equaliser	"	55.67	6 37
Jointer	"	60.00	10 22
Jointer's assistant	m.u.	58.67	3 00
Piler	m.o.	59.20	7 50
Piler's assistant	m.u.	58.64	3 86
Various	m.u.	59.35	4 15
	m.o.	59.15	6 86
Stenographer	m.o.	56.67	7 50
	f.o.	52.50	6 75
Stereotyper	m.o.	52.00	9 36
Stonecutter	m.o.	52.37	17 85
Stoneware and crockery :			
Kiln-burner	"	61.67	8 38
Presser	"	60.00	15 03
Turner	"	59.08	13 01
Various	"	60.00	8 24
Storekeeper	"	57.14	9 29
Stove foundry employé :			
Mounter	"	58.79	9 96
Nickel plater	"	59.67	11 00
Various n. e. s	"	58.86	7 31
Street railway employé :			
Car cleaner	"	67.60	9 20
Conductor	"	71.88	9 99
Driver	"	71.86	8 99
Leader	m.u.	60.00	5 00
Various	m.o.	70.56	10 14
Tack and nail maker	m.o.	59.78	7 31
	f.o.	56.43	2 74
Tailor shop employé :			
Coat maker	m.o.	58.09	9 79
	f.o.	58.43	6 60
Cutter	m.o.	58.42	14 20
Machine hand	f o.	58.29	5 00
Pant and vest maker	"	57.00	4 16
Various	"	60.00	3 13

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Tannery employé :			
Beamer	m.o.	59.12	7 46
Currier	"	59.40	8 12
Finisher	"	59.54	8 15
Grinder	"	59.80	5 70
Loft hand	"	60.00	6 67
Oiler	"	59.67	7 17
Roller	"	57.80	9 17
Shaver	"	59.71	11 54
Splitter	"	60.00	9 33
Sweat hand	"	60.00	7 17
Table hand	"	60.00	7 03
Tanner	"	59.51	7 61
Washer	"	59.71	7 29
Yard hand	"	59.90	6 70
Various	"	59.64	6 80
Teamster	"	60.60	7 33
Tent and sail maker	m.o.	59.50	7 50
	f.o.	53.80	3 70
Terra cotta and plaster works employé	m.o.	59.57	11 24
Timekeeper	"	60.17	8 04
Tinsmith	"	59.25	9 65
Tinware manufacturing employé	m.o.	57.49	7 55
	m.u.	56.32	2 93
	f.o.	57.32	3 12
	f.u.	56.00	2 08
Traveller	m.o.	54.25	16 72
Trunk and bag factory :			
Bag maker	m.o.	54.18	9 41
	f.o.	52.63	5 25
Trunk maker	m.o.	57.30	8 84
Various	m.o.	52.27	9 45
	m.u.	52.50	3 44
	f.o.	51.25	4 08
	f.u.	51.33	3 02
Tub and pail maker	m.o.	60.94	5 42
Undertaker	"	58.33	9 42
Undertaker's supplies :			
Robe maker	f.o.	55.00	3 68
Various	f.o.	56.00	4 21
	m.o.	57.50	8 04
Varnisher	"	56.40	9 67
Varnish and japan maker	"	54.67	11 44
Vinegar maker	"	58.25	16 06
Warehouseman	"	60.71	7 30
Wash-houseman (brewery)	"	60.00	6 72
Watchmaker	"	57.17	11 67
Watchman	"	69.72	7 24
Wheel making employé :			
Hub maker	"	57.00	10 68
Spoke turner	"	55.61	10 00
Wheel maker	"	60.00	11 00
Wheel rimmer	"	53.10	10 52
Various n. e. s	"	57.46	8 44
Whip maker	m.o.	55.36	10 26
	f.o.	55.00	3 75
White bronze monument works employé	m.o.	60.00	8 01
Whitesmith	"	55.00	13 00
Wincey weaver	"	60.00	6 58
Window shade maker	m.o.	57.63	8 15
	f.o.	56.11	4 44
Wire worker	m.o.	59.78	8 52
Wood bender	"	58.18	7 99
Wood turner	"	58.55	9 44
Wood worker	"	58.62	9 51

TABLE No. 1.—WEEKLY WAGES—*Continued.*

Occupations.	Sex and age.	Average for week—	
		Hours.	Wages.
		No.	$ c.
Woollen mill employé :			
Burler	f.o.	59.96	3 62
	f.u.	60 00	3 00
Carder	m.o.	59.82	8 71
Card helper	m.o.	59.76	4 62
	m.u.	59.65	2 74
	f.o.	59.93	3 60
	f.u.	60.00	2 40
Designer	m.o.	59.70	18 06
Doffer	m.u.	60.00	2 64
	f.u.	60.00	2 08
Drawer in	f.u.	56.00	2 80
	f.o.	60.00	4 60
Dyer	m.o.	59.20	12 01
Dyer's helper	m.o.	58.62	5 98
	m.u.	59.00	3 90
Finisher	m.o.	59.76	8 90
Finisher's helper	m.o.	59.69	4 48
	m.u.	58 80	3 42
	f.o.	57.72	3 56
	f.u.	58.00	3 00
Fuller	m.o.	59.75	7 19
Fuller's assistant	m.o.	60.00	3 90
	m.u.	58.00	3 00
Gigger	m.o.	60.00	4 65
Loom fixer	"	58.88	9 29
Mender	m.o.	60.00	4 40
	m.u.	60 00	3 00
	f.o.	60.00	4 21
Picker	m.o.	60.04	5 69
	m.u.	59.43	2 61
Piecer	m.u.	60.25	2 57
	f.u	58.00	2 84
	m.o.	60.18	3 22
Press hand	m.o.	60.00	6 00
Reeler	f.o.	59.50	4 02
	f.u.	60.00	2 70
Scourer	m.o.	59.53	6 45
Speeker	f.o.	59.62	3 11
Spinner	m.o.	59.67	8 33
Spinner's helper	m.o.	59.42	4 56
	m.u.	59.25	2 72
	f.o.	60.00	3 32
	f.u.	58.60	2 50
Spooler	f.u.	59.80	3 03
	f.o.	60.00	3 21
	m.o.	59.33	7 10
Twister	m.o.	56.14	6 05
	m.u.	59.45	2 86
	f.o.	58.09	2 90
	f.u.	59.17	2 65
Warper	m.o.	59.40	8 05
	f.o.	58.83	4 08
Weaver	f.o.	59.50	5 07
	m.o.	59.94	7 94
Weaver's helper	m.o.	55.00	3 73
	m.u.	60.00	2 90
	f.o.	59.17	2 90
	f.u.	54.44	2 82
Woollen mill employé :—*Continued*			
Winder	f.u.	56.04	2 51
	f.o.	57.81	3 20
	m.o.	59.33	5 98
Wool sorter	"	59.37	7 02
Various	m.o.	60.11	6 50
	m.u.	60.19	2 76
	f.o.	57.27	3 88
	f.u.	56.50	2 61
Yardman	m.o.	56.92	7 88
Average for all occupations:			
Males over 16 :			
Employers	......	59.16	9 04
Employés	......	59.13	9 77
Average	1888	59.15	9 13
	1887	58.88	9 18
	1886	58.86	9 00
	1885	59.50	9 11
	1885-8	59.10	9 11
Males under 16 :			
Employers	......	55.53	2 83
Employés	......	59.17	3 01
Average	1888	55.59	2 83
	1887	56.41	3 11
	1886	55.85	2 92
	1885	50.43	2 93
	1885-8	54.57	2 95
Females over 16 :			
Employers	......	56 46	4 23
Employés	......	57.10	4 75
Average	1888	56.49	4 25
	1887	57.21	4 58
	1886	55.90	4 37
	1885	58.77	4 36
	1885-8	57.09	4 39
Females under 16 :			
Employers	......	56.96	2 73
Employés	......	56.91	2 85
Average	1888	56.96	2 73
	1887	55.30	2 06
	1886	57.70	2 26
	1885	56.31	2 52
	1885-8	56.57	2 39
All classes :			
Employers	.....	58.51	7 86
Employés	.....	59.00	9 39
Average	1888	58.56	8 01
	1887	58.68	8 63
	1886	58.28	7 98
	1885	58.79	7 92
	1884	55.74	7 90

NOTE.—The averages in 1887 are from employés only. No averages for the several classes were made in 1884. A correction occurs in the wages for 1884, by omitting hotel employés who receive board.

YEARLY WAGES AND COST OF LIVING.

TABLE No. II.—Showing by occupations the averages of time employed, yearly earnings and cost of living for the year 1888 based on the returns of 2,752 workpeople, collected in 24 towns and cities of Ontario, classified by sex and age and with or without dependents.

Occupations.	No. of dependents.		Time employed.		Yearly earnings.				Cost of living.		Surplus or deficit (-).
	Total.	Under 16.	Hours per week.	Days in year.	Wages from occupation.	Extras.	Wife and minor children's.	Total.	Total.	Per capita.	
MALES OVER 16 YEARS.			No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Apprentice	......	......	58.66	296.13	193 78	4.67	......	198 45	189 46	...	8 99
Ash gatherer	2.00	1.00	66.00	295.00	377 00	....	......	377 00	349 00	116 33	28 00
Axe factory employé	2.67	1.67	48.67	256.33	661 67	......	......	661 67	506 27	138 07	155 40
	.	.....	48.00	232.00	521 00	....	.....	521 00	300 00	....	221 00
Baker	3.13	2.00	62.57	290.26	485 83	.. .	6 09	491 92	448 62	108 61	43 30
		.....	62.47	288.93	451 25	0 70	......	451 95	293 92	......	158 03
Barber	3.09	1.91	66.55	292.55	449 09	......	......	449 09	411 27	100 53	37 82
	.....	.....	74.00	273.00	450 67	......	......	450 67	328 67	..	122 00
Bartender	3.00	2.00	65.00	305.00	454 50	12 50	......	467 00	363 00	90 75	104 00
Blacksmith	3.77	2.57	58.94	273.57	473 33	5 65	3 82	482 80	438 61	91 87	44 19
	.. .	......	59.27	280.14	412 81	1 14	.....	413 95	301 55	....	112 40
Blacksmith's helper	2.90	1.38	57.14	273.48	339 38	7 86	17 86	365 10	351 41	90 00	13 69
	......	......	57.43	275.57	330 36	......	......	330 36	286 20	......	44 16
Boatbuilder	2.75	2.00	60.00	300.00	520 00	......	.....	520 00	373 50	99 60	146 50
Boilermaker	3.40	2.10	55.40	277.50	547 40	4 00	......	551 40	533 08	121 15	18 32
Boilermaker's helper	3.20	2.00	54.80	294.00	346 60	......	..	346 60	346 40	82 48	0 20
Bookbinder	3.38	1.63	56.13	283.88	487 13	.....	50 00	537 13	496 97	113 59	40 16
Book-keeper	4.22	3.11	56.67	298.67	665 33	26 67	......	692 00	533 22	102 11	158 78
	......	......	53.20	300.00	465 00	......	......	465 00	307 20	......	157 80
Boot and shoe factory :											
Bottomer	4.00	3.00	53.00	273.33	439 87	14 00	.....	453 87	449 93	89 99	3 94
	.... .	. ....	54.00	300.00	526 38	.... .	....	526 38	330 00	. ..	196 38
Cutter	1.67	0.33	54.00	260.00	373 33	......	......	373 33	363 33	136 25	10 00
Finisher	......	......	59.00	267.50	267 50	.....	..	267 50	227 00	......	40 50
Heeler	5.00	3.33	55.67	281.00	341 33	......	12 00	353 33	375 00	62 50	-21 67
Laster	4.00	2.75	55.50	256.50	324 50	......	......	324 50	368 50	73 70	-44 00
	... .	......	54.00	266.00	325 00	.....	. .	325 00	236 00	......	89 00
Machine operator	3.50	2.50	49.50	250.00	365 00	....	150 00	515 00	569 00	126 44	-54 00
Bricklayer	4.13	2.79	56.13	189.84	482 95	0 79	3 37	487 11	450 26	87 74	36 85
	.....	.....	50.86	157.71	451 91	.....	.....	451 91	338 00	.....	113 91
Brickmaker	3.75	2.75	58.00	216.75	318 25	31 75	......	350 00	323 00	68 00	27 00
Broom maker	3.00	1.00	56.50	283 50	495 00	......	158 25	653 25	447 50	111 88	205 75
	......	......	51.00	284.67	391 67	. ....	......	391 67	289 00	......	102 67
Brush maker	3.75	2.50	58.25	267.50	437 50	......	25 00	462 50	425 00	89 47	37 50
Butcher	2.50	1 25	66.50	292.13	430 75	12 50	...	443 25	367 88	105 11	75 37
	......	......	66.00	256.00	252 00	......	. .	252 00	215 00	.....	37 00
Carpenter	3.84	2.48	54.82	267.55	457 00	2 99	9 17	469 16	433 81	89 70	35 35
	.... .	....	55.26	264.53	423 69	.....	.....	423 69	323 36	.....	100 33
Carpenter (ship)	4.40	2.20	60.00	245.20	469 00	.. ..	...	469 00	429 50	79 54	39 50
Carriage maker	3.09	2.09	59.27	276.41	437 95	27 14	7 09	472 18	404 91	98 98	67 27
Carriage trimmer	2.17	1.17	57.17	271.17	467 09	... .	......	467 09	423 13	133 62	43 96
	......	.....	58.40	272.60	433 00	......	.	433 00	283 20	....	149 80
Carter	5.00	2.67	63 33	256.33	398 00	.....	83 33	481 33	406 67	67 78	74 66
Caulker	3.20	2.00	60.00	228 40	456 80	22 20	4 00	483 00	409 42	97 48	73 58
Chain maker	3.50	2.50	54.00	282.50	706 00	....	.. ..	706 00	462 50	102 78	243 50
Cigar maker	2.09	1.00	53.00	293.75	485 09	......	.....	485 09	398 81	129 03	86 28
	....	.....	54.75	176.75	400 75	......	.....	400 75	281 50		119 25
Clerk (hotel)	2.75	1.75	61.50	323.75	487 56	.....	.....	487 56	446 50	119 07	41 06
Confectioner	...	.....	59.00	304.00	437 50	.	..	437 50	296 50	...	141 00
Cooper	3.33	2.17	56.00	268.22	364 67	0 66	17 00	382 33	369 78	85 33	12 55
	....	.....	57.20	262.00	337 80	.....	.....	337 80	240 68	....	97 12
Coppersmith	.....	.. ..	52.00	296 00	371 00	...	.. .	371 00	332 00	.....	39 00
Cotton mill employé :											
Beamer	3.25	2.00	60 50	260.75	384 21	......	10 00	394 21	413 59	97 31	-19 38
	......	......	60.50	228.00	367 00	....	......	367 00	325 00	.....	42 00

TABLE II.—YEARLY WAGES AND COST OF LIVING.—*Continued.*

Occupations.	No. of dependents.		Time employed.		Yearly earnings.				Cost of living.		Surplus or deficit (-).
	Total.	Under 16.	Hours per week.	Days in year.	Wages from occupation.	Extras.	Wife and minor children's.	Total.	Total.	Per capita.	
			No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Cotton mill employé—*Con.*											
Loom fixer	3.80	2.60	60.00	247.00	400 05	5 00	40 00	445 05	380 65	79 30	64 40
	.....	....	60.00	240.50	384 80	.....	.....	384 80	324 10	...	60 70
Mill hand	2.50	1.00	60.00	296.00	324 90	.....	.....	324 90	282 00	80 57	42 90
Slasher tender	2.33	1.67	60.67	264.00	398 50	...	..	398 50	370 08	111 03	28 42
Spinner	3.13	2.00	59.13	247.75	321 72	5 00	12 50	339 22	365 50	88 61	-26 28
Weaver	3.38	2.25	60.00	266.63	309 31	......	38 75	348 06	368 52	84 23	-20 46
	.....	.....	60.20	239.80	266 25	3 00	.....	269 25	271 00	.....	-1 75
Various	3.00	2.00	60.29	256.86	287 36	2 86	68 57	358 79	380 86	95 22	-22 07
Driller	.....	....	57.67	248.67	307 00	16 67	....	323 67	268 67	.....	55 00
Driver or deliveryman	3.47	2.27	66.47	298.73	383 40	4 66	9 00	397 06	378 93	84 84	18 13
	.....	.....	66.25	300.00	300 00	.....	....	300 00	219 75	.....	80 25
Engineer (stationary)	4.50	2.80	64.53	282.80	420 12	8 57	12 93	441 62	398 80	72 51	42 82
	.....	.....	61.25	286.50	357 25	.....	.....	357 25	282 53	.....	74 72
Fireman	4.25	3.00	63.00	285.38	375 88	.....	9 37	385 25	364 13	69 36	21 12
	.....	.....	71.80	274.80	416 80	.. .	.....	416 80	301 00	.....	115 80
Fitter	3.29	1.89	56.39	279.82	483 29	5 39	9 47	498 15	456 18	106 44	41 97
	.....	.....	56.67	281.17	389 56	.....	.....	389 56	301 33	.....	88 23
Foremen :											
Blacksmith	6.25	5.25	59.50	292.00	709 50	.....	.....	709 50	656 25	90 52	53 25
Carpenter	4.00	2.75	53.00	297.00	627 00		.....	627 00	577 00	115 40	50 00
Furniture factory	3.00	2.00	54.00	252.00	511 88	10 00	.....	521 88	411 50	102 88	110 38
Lumber mill	5.00	2.67	55.00	246.33	539 33	.....	33 33	572 66	529 66	88 28	43 00
Miller	4.00	3.00	64.67	294.67	748 33	20 00	.....	768 33	608 33	121 67	160 00
Moulder	6.00	4.50	59.50	270.50	675 00	.....	.....	675 00	586 68	83 81	88 32
Paper bag maker	5.25	4.25	55.25	307.50	703 25	.....	.....	703 25	605 38	96 86	97 87
Pressman	4.00	2.50	56.00	300.00	764 00	.....	.....	764 00	685 75	137 15	78 25
Printer	5.50	3.00	59.75	307.25	617 50	38 50	.....	656 00	576 34	88 67	79 66
Railway (section)	3.00	1.67	59.67	300.33	512 43	.....	....	512 43	435 00	108 75	77 43
Tannery	6.60	5.40	58.60	297.60	595 20	.....	.....	595 20	554 00	72 89	41 20
Woodworker	3.50	2.50	60.00	267.50	591 00	.....	..	591 00	400 00	88 89	191 00
Woollen mill	2.20	0.60	58.80	295.80	617 40	.....	.....	617 40	461 40	144 19	156 00
Various	3.92	2.62	59.31	280.00	598 94	11 92	3 85	614 71	486 09	98 74	128 62
	.....	.....	58.00	300.00	550 00	.....	.....	550 00	450 00	.....	100 00
Furniture factory employé:											
Bench hand	2.00	1.00	59.67	269.67	413 33	4 67	.....	418 00	396 33	132 11	21 67
Cabinet maker	3.28	1.96	58.40	279.48	448 30	6 00	7 24	461 54	430 84	100 66	30 70
	.....	. . .	59.57	289.57	389 14	.....	.....	389 14	312 71	.....	76 43
Carver	3.00	2.00	52.67	258.33	417 66	.....	.....	417 66	369 33	92 33	48 33
Chairmaker	1.00	.....	57.67	224.67	326 67	.....	.....	326 67	330 33	165 17	-3 66
Finisher	4.80	3.60	57.60	286.60	463 00	.. .	.....	463 00	432 00	74 48	31 00
	.....	.....	59.50	282 00	387 50	12 50	.....	400 00	333 00	....	67 00
Planer	2.00	1.00	57.33	273.33	365 75	.....	.....	365 75	338 67	112 89	27 08
Polisher	4.00	3.00	57.00	252.75	405 75	....	.....	405 75	391 25	78 25	14 50
	....	.....	52.00	277.50	477 50	.....	.....	477 50	280 50	.....	197 00
Sawyer	3.00	2.00	54.00	247.50	290 50	7 50	.....	298 00	321 50	90 38	-23 50
Upholsterer	4.67	2.33	56.33	281.33	466 53	.....	50 00	516 53	482 00	85 06	34 53
	.....	.....	56.83	250.83	337 83	.....	.....	337 83	270 83	.....	67 00
Varnisher	4.25	3.00	59.00	254.63	397 38	....	....	397 38	414 75	79 00	-17 37
Gardener	3.00	2.00	66.67	264.00	328 00	11 67	....	339 67	290 00	72 50	49 67
	.....	.....	60.00	306.00	300 00	.	.....	300 00	235 50	... .	64 50
Gas works employé	6.00	5.00	67.67	335.00	480 33	.....	25 00	505 33	447 00	63 86	58 33
Glass blower :											
Bottle maker	4.20	3.20	47.20	160.00	587 80	4 00	.....	591 80	569 40	109 58	22 00
Chimney gatherer	2.00	0.50	44.00	154.00	308 00	.....	.....	308 00	358 00	119 33	-50 00
Chimney maker	5.00	4.00	44.00	154.00	616 00	.....	.....	616 00	616 00	102 67	... ..
Glove cutter	2.67	1.67	60.00	270.00	610 00	....	....	610 00	548 00	149 45	62 00
Grinder	4.17	3.00	57.17	241.33	397 23	....	.....	397 23	422 10	81 70	-24 87
Harnessmaker	3.75	2.06	57.69	289.00	404 91	0 62	28 44	433 97	413 01	86 95	20 96
	.....	....	58.90	284 60	414 23	11 00	....	425 23	302 70	.....	122 53
Hatter	3.67	2.33	59.00	170.00	277 67	.....	.....	277 67	395 13	84 67	-117 46

TABLE II.—YEARLY WAGES AND COST OF LIVING.—*Continued.*

Occupations.	No. of dependents.		Time employed.		Yearly earnings.				Cost of living.		Surplus or deficit (-)
	Total.	Under 16.	Hours per week.	Days in year.	Wages from occupation.	Extras.	Wife and minor children's.	Total.	Total.	Per capita.	
			No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Horse shoer	4.00	2.85	59.77	276.69	463 47	......	......	463 47	445 15	89 03	18 32
	...	......	60.00	246.67	382 48	......	....	382 48	302 33	......	80 15
Hostler	3.63	2.63	71.00	350.63	356 50	46 88	16 87	420 25	390 63	84 46	29 62
Iron turner	.. ..	......	58.14	273.86	474 43	.....	...	474 43	320 57	......	153 86
Laborer (general)	3.89	2.40	58.05	258.38	311 66	7 16	31 06	349 88	350 32	71 58	-0 44
	......	. ....	55.88	251.46	296 37	2 19	.....	298 56	247 59	......	50 97
do (builder's)	4.36	3.07	53.21	217.50	320 22	4 67	24 78	349 67	346 63	64 70	3 04
Lumber mill employé:											
Sawyer	4.00	3.00	56.25	240.50	367 50	30 00	2 00	399 50	392 33	78 47	7 17
	.....	......	57.00	262.50	381 50	......	......	381 50	305 50	......	76 00
Various	3.00	1.50	59.75	239.25	324 00	5 00	.... .	329 00	316 50	79 13	12 50
	......	......	54.33	289.33	370 00	.....	......	370 00	288 67	......	81 33
Machine hand	3.45	2.10	56.93	263.28	415 54	21 69	1 73	438 96	413 86	93 04	25 10
	.. ..	......	56.56	283.11	370 92	5 00	......	375 92	294 78	....	81 14
Machinist	3.63	2.31	58.06	275.91	487 56	4 74	6 57	498 87	455 75	98 49	43 12
	......	......	56.21	277.69	440 80	2 24	......	443 04	304 32	......	138 72
Malster	6.67	5.67	60.00	311.00	506 67	......	......	506 67	505 67	65 96	1 00
Marble cutter	3.44	2.33	59.44	252.22	450 75	......	7 22	457 97	399 44	89 88	58 53
	......	......	59.33	218.33	386 67	8 33	......	395 00	296 50	......	98 50
Marble polisher	4.00	3.00	58.60	254.20	323 22	.. ...	......	323 22	332 00	66 40	-8 78
Mason (stone)	4.38	3.03	56.90	182.52	491 90	2 24	......	494 14	457 72	85 09	36 42
	......	......	57.29	153.43	425 20	3 57	......	428 77	291 14	... ..	137 63
Mat weaver	3.25	2.25	58.00	283.00	401 25	......	......	401 25	388 75	91 47	12 50
	......	......	58.00	283.00	316 67	......	......	316 67	277 50	......	39 17
Melter	3.80	2.80	57.20	254.00	446 70	25 40	40 00	512 10	429 80	89 54	82 30
	.....	......	60.50	247.50	355 50	22 50	......	378 00	302 50	.....	75 50
Messenger	5.50	4.00	50.00	290.00	480 00	25 00	.....	505 00	505 00	77 69	....
	.....	......	65.00	300.00	360 00	.....	......	360 00	242 50	.....	117 50
Miller	3.86	2.14	64.57	270.71	455 38	10 72	....	466 10	419 57	86 38	46 53
	......	......	61.00	283.00	475 00	......	....	475 00	302 00	.. ...	173 00
**Miscellaneous*, n.e.s	3.51	2.39	60.41	277.24	457 67	9 27	5 85	472 79	412 15	91 34	60 64
	.....	.....	59.18	263.27	352 91	48	...	353 39	264 89	......	88 50
Moulder (iron)	3.53	2.20	57.81	267.11	504 38	2 99	4 46	511 83	461 15	101 72	50 68
	....	...	57.21	274.07	456 08	.....	......	456 08	310 35	...	145 73
Moulder (brass)	2.00	1.00	60.00	311.00	622 00	.....	.....	622 00	575 00	191 67	47 00
Packer (flour)	3.13	1.88	59.75	280.00	369 38	......	......	369 38	337 88	81 91	31 50
do (general)	3.50	2.25	58.25	264.25	438 50	....	.....	438 50	402 00	89 33	36 50
Painter	3.53	2.19	56.00	250.38	418 17	5 92	7 25	431 34	417 08	92 02	14 26
	......	.....	58.31	235.84	367 01	4 72	......	371 73	290 27	......	81 46
Paper bag maker	......	.....	57.00	302.50	365 00	.....	.....	365 00	316 75	....	48 25
Paper box maker	2.00	1.00	58.00	300.00	475 00	......	......	475 00	390 00	130 00	85 00
	......	.....	57.00	303.33	314 67	.....	......	314 67	272 67	.....	42 00
Paper hanger	3.00	1.33	57.33	213.33	408 33	20 00	.....	428 33	341 00	85 25	87 33
Pattern maker	3.00	2.00	56.00	270.00	470 00	.....	.....	470 00	445 00	111 25	25 00
Piano and organ factory employé:											
Action maker	2.40	1.00	58.20	268.00	441 54	.....	.....	441 54	390 40	114 82	51 14
	.....	......	57.67	287.67	405 66	......	.....	405 66	262 33	. ...	143 33
Case maker	3.00	1.80	54.60	267.20	447 28	7 20	......	454 48	345 00	86 25	109 48
Finisher	3.00	2.00	57.50	280.63	504 56	......	......	504 56	445 02	111 26	59 54
Rubber, polisher and varnisher	4.00	2.40	56.40	266.00	452 84	......	......	452 84	459 40	91 88	-6 56
	......	......	56.50	246.88	410 44	.. ...	......	410 44	345 68	......	64 76
Tuner	3.00	2.00	57.50	279.00	622 50	......	......	622 50	517 50	129 38	105 00
Planer (iron)	......	.....	59.00	260.00	368 50	......	......	368 50	301 00	......	67 50
Plasterer	4.38	2.63	55.06	224.25	518 11	3 12	10 94	532 17	488 60	90 90	43 57
	......	......	54.00	211.50	424 25	......	......	424 25	305 25	......	119 00

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*In this table no occupation is given unless two or more returns were received. "Miscellaneous" contains 41 single occupations of those with dependents and 33 of those without dependents.

TABLE II.—YEARLY WAGES AND COST OF LIVING.—*Continued.*

Occupations.	No. of dependents.		Time employed.		Yearly earnings.				Cost of living.		Surplus or deficit (-).
	Total.	Under 16.	Hours per week.	Days in year.	Wages from occupation.	Extras.	Wife and minor children's.	Total.	Total.	Per capita.	
			No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Plumber and gas fitter	4.29	2.93	56.07	269.86	511 36	......	7 14	518 50	464 54	87 89	53 96
	......	......	57.67	266.00	458 00	......	......	458 00	373 67	......	84 33
Polisher (metal)	3.44	2.00	52.56	233.67	372 49	......	......	372 49	375 56	84 50	-3 07
Porter	3.09	2.00	65.64	317.73	414 00	......	9 09	423 09	367 75	89 89	55 34
	....	......	64.80	323.40	307 36	.....	......	307 36	242 20	.....	65 16
Press feeder	......	.....	56.25	260.00	236 00	....	.....	236 00	225 50	....	10 50
Pressman	4.00	3.00	57.40	299.00	518 20	......	......	518 20	522 90	104 58	-4 70
	......	....	56.40	294.00	480 00	......	.....	480 00	385 40	....	94 60
Printer	3.07	1.87	57.27	291.37	508 68	10 70	10 67	530 05	492 53	121 11	37 52
	......	....	58.43	291.67	380 45	......	......	380 45	310 74	.....	69 71
Quarryman	2.75	1.25	59.00	227.50	425 75	......	18 75	444 50	334 75	89 27	109 75
Railway employé:											
Brakeman	3.00	2.00	69.50	321.38	518 90	......	......	518 90	462 09	115 52	56 81
	.....	......	70.00	320.00	572 00	....	......	572 00	394 33	.....	177 67
Car builder	4.40	2.40	59.40	280.60	510 30	1 20	....	511 50	472 40	87 48	39 10
Car cleaner	3.00	2.00	65.33	325.00	407 37	......	33 33	440 70	354 00	88 50	86 70
Car inspector	4.33	3.33	66.67	343.33	556 00	.....	.....	556 00	434 33	81 44	121 67
Car repairer	3.92	2.31	57.85	296.54	406 54	4 61	5 54	416 69	413 88	84 07	2 81
	......	....	57.00	291.50	364 00	...	....	364 00	284 50	......	79 50
Conductor	3.70	2.70	74.60	326.00	766 50	....	....	766 50	525 00	111 70	241 50
	......	......	76.00	338.50	830 00	.....	.....	830 00	388 50	......	441 50
Engineer	2.83	1.33	70.33	300.17	851 66	......	.....	851 66	573 83	149 70	277 83
Fireman	2.60	1.40	65.00	312.00	590 00	......	......	590 00	465 60	129 33	124 40
	......	......	64.50	312.00	562 00	......	......	562 00	370 00	......	192 00
Fitter's helper	......	......	56.67	298.33	356 67	......	......	356 67	288 00	.....	68 67
Sectionman	3.00	1.40	60.00	300.30	306 68	......	3 50	310 18	322 18	80 55	-12 00
Wheelman	6.00	5.00	58.00	287.50	345 00	......	10 00	355 00	355 00	50 71	....
Various	3.80	2.50	63.10	312.00	433 20	......	20 00	453 20	403 11	83 98	50 09
	......	......	71.33	331.67	491 67	......	......	491 67	332 67	.....	159 00
Reporter	1.50	0.50	60.00	275.00	537 50	67 50	....	605 00	512 00	204 80	93 00
	......	......	60.00	247.50	460 00	....	......	460 00	395 00	....	65 00
Saddler	......	...	58.50	290.00	290 00	......	......	290 00	241 00	......	49 00
Salesman	2.76	1.65	60.29	277.59	488 41	......	16 30	504 71	416 41	110 61	88 30
	.....	.....	61.70	301.64	385 85	......	.....	385 85	297 21	.....	88 64
Saw works employé:											
Filer	3.67	2.67	59.00	257.33	457 00	......	......	457 00	432 00	92 57	25 00
	......	...	59.00	270.00	406 00	.....	......	406 00	311 50	.....	94 50
Handle maker	3.67	2.00	58.67	273.33	481 67	......	.....	481 67	459 50	98 46	22 17
	......	..	59.00	240.00	420 00	......	......	420 00	324 00		96 00
Saw maker	4.00	3.00	58.75	245.00	580 00	......	.....	580 00	521 50	104 30	58 50
Sewing machine assembler.	3.00	2.00	59.00	260.00	400 00	......	......	400 00	417 25	104 31	-17 25
Shipper	4.20	2·60	59.60	286.40	392 60	.....	20 00	412 60	414 60	79 73	-2 00
	......	......	58.67	254.33	293 50	......	......	293 50	236 33	...	57 17
Shoemaker	3.29	1.85	58.88	281.22	410 87	3 71	12 70	427 28	392 21	91 37	35 07
	......	......	55.29	280.43	389 21	......	.....	389 21	282 64	....	106 57
Show case maker	3.00	1.50	59.00	262.50	440 00	......	.....	440 00	429 50	107 38	10 50
Soap maker	...	.....	59.00	260.50	295 50	14 00	......	309 50	187 50	......	122 00
Stave mill operator	5.33	3.33	59.67	145.67	196 00	59 00	50 00	305 00	305 00	48 16	....
Stone cutter	4.64	3.32	57.80	212.40	543 62	3 76	8 80	556 18	482 93	85 63	73 25
	......	......	50.00	145.67	445 00	......	......	445 00	352 83	.....	92 17
Stove foundry employé:											
Mounter	3.14	1.71	55.86	205.00	326 95	8 57	17 00	352 52	372 71	89 97	-20 19
	......	....	52.00	258.00	398 00	10 00	.....	408 00	271 50	..	136 50
Various n.e.s	3.67	1.67	58.33	259.33	390 00	103 33	33 33	526 66	486 73	104 30	39 93
Tailor shop employé:											
Cutter	3.67	2.17	55.00	275.50	755 33	8 33	......	763 66	535 83	114 82	227 83
	......	......	59.50	300.00	690 00	.....	.....	690 00	362 50	.....	327 50
Tailor	3.12	1.84	59.00	247.08	419 04	5 60	1 60	426 24	387 22	93 99	39 02
	......	......	57.62	250.52	381 89	5 95	......	387 84	300 00	......	87 84

TABLE II.—YEARLY WAGES AND COST OF LIVING.—*Continued.*

Occupations.	No. of dependents.		Time employed.		Yearly earnings.				Cost of living.		Surplus or deficit (-).
	Total.	Under 16.	Hours per week.	Days in year.	Wages from occupation.	Extras.	Wife and minor children's.	Total.	Total.	Per capita.	
			No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Tannery employé:											
Beam hand	2.88	1.63	56.00	275.00	384 38	......	......	384 38	372 88	96 23	11 50
Currier	3.22	1.78	57.44	281.11	435 22	......	13 89	449 11	398 56	91 76	50 55
	......	......	56.50	303.00	404 50	......	......	404 50	260 00	......	144 50
Tanner	4.50	3.10	58.90	283.60	455 60	......	17 50	473 10	394 50	71 73	78 60
	......	......	59.00	270.00	440 00	...	...	440 00	283 00	......	157 00
Various	3.50	2.00	59.50	291.00	515 00	......	25 00	540 00	421 50	93 67	118 50
	......	......	58.00	254.00	345 00	......	......	345 00	298 67	......	46 33
Teamster	4.05	2.86	61.10	287.57	356 49	0 48	7 66	364 63	345 03	68 36	19 60
	......	......	61.70	294.00	336 60	......	......	336 60	246 41	......	90 19
Tinsmith	3.55	2.19	58.29	285.55	457 24	......	14 52	471 76	441 56	97 08	30 20
	......	......	58.41	285.11	393 66	....	......	393 66	289 88	......	103 78
Tobacco roller	2.00	0.80	54.80	223.40	420 30	4 80	40 00	465 10	457 40	152 47	7 70
	......	......	41.00	240.50	439 00	......	......	439 00	374 80	......	64 20
Tool maker	3.50	2.50	57.50	288.00	700 00	40 00	....	740 00	640 50	142 33	99 50
Traveller	5.00	4.00	60.00	305.00	837 50	......	......	837 50	539 50	89 92	298 00
Trunk maker	4 00	3 00	53.50	305.00	636 50	......	......	636 50	603 40	120 68	33 10
Varnish maker	3.67	2.67	56.00	303.33	464 00	......	......	464 00	304 00	65 14	160 00
Watchman	3.14	2.00	73.57	322.00	413 68	......	24 28	437 96	376 83	90 96	61 13
Wincey mill employé	......	......	60.00	266.75	268 75	......	......	268 75	194 25	....	74 50
Woodbender	4.00	3.00	59.50	210.00	350 00	16 50	......	366 50	459 00	91 80	-92 50
Wood turner	3.92	2.25	56.83	279.50	472 42	4 16	16 25	492 83	446 62	90 84	46 21
Woodworker	3.83	2.17	56.92	258.83	397 29	1 17	......	398 46	408 96	84 61	-10 50
	......	......	57.09	249.73	381 16	7 09	......	388 25	292 59	......	95 66
Woollen mill operative:											
Carder	3.50	1.75	59.75	262.50	535 50	......	......	535 50	422 75	93 94	112 75
Card helper	4.00	3.00	58.67	295.33	345 00	......	33 33	378 33	351 00	70 20	27 33
	......	......	59.25	272.50	223 60	......	......	223 60	213 25	......	10 35
Designer	3.50	2.50	58.50	297.50	970 50	......	......	970 50	700 00	155 56	270 50
Dyer	4.33	3.33	59.33	298.00	560 67	......	......	560 67	520 00	97 50	40 67
Dye house hand	3.33	2.33	58.67	282.33	298 00	......	13 33	311 33	303 33	70 00	8 00
	......	......	59.00	299.00	344 90	......	......	344 90	267 00	......	77 90
Finisher	3.50	1.75	59.50	278.25	477 00	......	9 75	486 75	450 25	100 06	36 50
	......	......	58.50	273.75	299 75	......	......	299 75	237 50	......	62 25
Fuller	3.67	2.67	58.67	284.67	382 00	10 00	......	392 00	391 67	83 93	0 33
Loom Fixer	......	......	58.00	294.00	400 00	......	......	400 00	262 50	......	137 50
Picker	5.00	4.00	58.67	284.33	294 67	......	......	294 67	301 67	50 28	-7 00
Scourer	......	......	60.00	297.00	235 00	......	......	235 00	230 00	......	5 00
Spinner	4.50	3.50	59.00	287.50	509 75	......	36 00	545 75	500 25	90 95	45 50
	......	......	59.71	287.00	335 82	......	......	335 82	267 07	......	68 75
Warper	3.50	2.50	58.50	279.50	420 00	2 00	......	422 00	394 00	87 56	28 00
	......	......	58.00	292.00	387 50	......	......	387 50	287 50		100 00
Weaver	2.50	1.50	58.50	311.00	419 00	7 50	......	426 50	338 50	96 71	88 00
	......	......	59.20	298.60	333 01	......	......	333 01	255 60	......	77 41
Wool sorter	3.00	2.50	59.00	299.50	317 80	......	......	317 80	285 00	71 25	32 80
	......	......	58.00	291.33	388 33	......	......	388 33	345 00	......	43 33
Various	2.67	1.67	58.67	295.33	368 33	......	......	368 33	360 67	98 36	7 66
	......	......	58.67	294.33	290 58	......	......	290 58	200 66	......	89 92
Average for all occupations	3.64	2.31	58.33	267.89	447 16	5 37	10 26	462 79	423 67	91 29	39 12
	......	......	58.50	273.43	366 40	1 85	....	368 25	280 93	......	87 32
MALES UNDER 16 YEARS.											
Apprentice (9)	......	......	59.78	289.78	139 55	2 78	......	142 33	130 33	......	12 00
Woollen mill helper (15)	......	......	58.80	296.60	152 81	......	......	152 81	150 47	......	2 34
All occupations	......	......	59.17	294.04	147 84	1 04	......	148 88	142 92	......	5 96

TABLE II.—YEARLY WAGES AND COST OF LIVING.—*Concluded.*

Occupations.	No. of dependents.		Time employed.		Yerrly earnings.				Cost of living.		
	Total.	Undrr 16.	Hours per week.	Days in year.	Wages from occupations.	Extras.	Wife and minor children's.	Total.	Total.	Per capita.	Surplus or deficit (-).
			No.	No.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
FEMALES OVER 16 YEARS.											
Cigar maker	......	......	54.63	302.00	271 50	......	......	271 50	204 13	......	67 37
Corset factory operative:											
Hoop skirt maker	2.00	1.00	57.00	270.00	202 50	......	......	202 50	264 00	88 00	-61 50
	......	......	59.00	256.67	206 50	......	......	206 50	205 50	......	1 00
Stretcher	......	.....	57.50	268.17	183 27	......	......	183 27	179 04	.....	4 23
Waist stay maker	.....	. .	57.00	272.33	163 83	.....	....	163 83	163 50	......	0 33
Cotton mill operative:											
Drawer in	3.00	3.00	60.00	267.00	267 00	......	......	267 00	276 00	69 00	-9 00
	.....	......	60.75	257.75	257 75	.....	......	257 75	211 50	.....	46 25
Weaver	1.00	1.00	61.00	259.00	259 00	.....	......	259 00	300 00	150 00	-41 00
	......	......	60.00	258.00	229 39	1 25	.....	230 64	186 95	......	43 69
Various	.....	......	60.00	194.50	120 20	.....	......	120 20	142 00	.....	-21 80
Dressmaker	......	......	50.57	274.00	194 86	.....	......	194 86	184 29	......	10 57
Machine embroiderer	.....	....	50 00	268.33	309 65	.....	......	309 65	227 00	.....	82 65
*Miscellaneous (6)	.....	......	56.17	267.67	260 17	......	......	260 17	218 50	......	41 67
Paper bag maker	......	....	57.00	304.44	199 67	......	......	199 67	197 72	....	1 95
Paper box maker	......	......	51.73	301.87	209 37	......	......	209 37	188 07	......	21 30
Press feeder	.....	.....	54.67	283.00	187 00	......	......	187 00	182 09	.....	5 00
Printer	......	.....	57.00	300.00	212 50	....	.....	212 50	193 00	....	19 50
Saleswoman	.....	.....	55.50	292.50	283 25	...	......	283.25	226 50	......	56 75
Tailoress	......	.....	55.79	263.25	207 26	3 12	......	210 38	165 72	......	44 66
Tray liner	......	.....	47.75	241.00	176 00	......	.....	176 00	167 08	.....	8 92
Woollen mill operative:											
Weaver	......	......	59.30	283.39	205 31	......	......	205 31	163 91	.....	41 40
Various	......	......	59.71	295.71	191 64	....	......	191 64	170 64	......	21 00
Average for all occupations	2.00	1.67	59.33	265.33	242 83	.....	......	242 83	280 00	93 33	-37 17
	.....	......	55.98	276.05	212 41	0 97	......	213 38	180 04	......	33 34
FEMALES UNDER 16 YEARS.											
Paper bag maker	......	......	57.00	310.00	125 00	......	......	125 00	139 00	......	-14 00
Tray liner	......	......	47.00	242.00	124 00	......	......	124 00	124 00	......	....
Woollen mill operative	......	......	58.00	285.00	142 36	......	......	142 36	142 36	......	....
All occupations	......	......	56.73	287.91	135 95	......	......	135 95	139 77	......	-3 82

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* Six single occupations, including a mantlemaker earning $475 and a milliner earning $450.

TIME EMPLOYED AND WAGES EARNED.

TABLE No. III.—Being a supplement to Table II, showing the time employed and yearly wages of certain occupations, subdivided for other purposes in the preceding table into workers with and without dependents.

Occupations.	Hours per week.	Days in year.	Yearly wages.	Extra earnings.
MALES OVER 16.	No.	No.	$ c.	$ c.
Axe factory employé	48.00	246.60	405 40	.....
Baker	62.53	289.74	469 55	0 27
Barber	68.14	288.36	449 93	.....
Blacksmith	59.00	274.83	461 75	4 79
Blacksmith's helper	57.21	274.00	337 13	5 89
Bookkeeper	55.43	299.14	593 79	17 14
Boot and shoe factory:				
Bottomer	53.25	280.00	461 50	10 50
Laster	55.20	258.40	324 60	.....
Bricklayer	55.31	184.84	478 16	0.67
Broom maker	53.20	284.20	433 00	.....
Butcher	66.40	284.90	395 00	10 00
Carpenter	54.88	267.16	452 69	2 60
Carriage trimmer	57.73	271.82	451 59	.....
Cigar maker	53.47	289.20	462 60	.....
Cooper	56.26	266.87	358.83	0 52
Cotton mill operative:				
Beamer	60.50	249.83	378 48	.....
Loom fixer	60.00	261.00	378 58	3 57
Weaver	60.08	256.31	292 75	1 15
Deliveryman	66.42	299.00	365 84	3 69
Engineer	64.15	283.24	412 72	7 56
Fireman	66.38	281.31	391 62	.....
Fitter	56.44	280.06	466 75	4 44
Foreman	59.13	282.67	592 42	10 33
Furniture factory employé:				
Cabinet maker	58.66	281.69	435 36	4 69
Finisher	58.14	285.29	441 43	3 57
Polisher	55.33	261.00	429 67	.....
Upholsterer	56.67	261.00	380 73	.....
Gardener	64.00	280.80	316 80	7 00
Harness maker	58.15	287.31	408 49	4 62
Horse shoer	59.81	271.06	448 28	.....
Laborer (general)	57.59	256.91	308 39	6 10
Lumber mill employé:				
Sawyer	56.50	247.83	372 17	20 00
Various	57.43	260.71	343 71	2 86
Machine hand	56.84	267.97	404 97	17 74
Machinist	57.55	276.40	474 64	4 05
Marble cutter	59.42	243.75	434 73	2 08
Mason (stone)	56.97	176.86	478 93	2 50
Mat weaver	58.00	283.00	350 50	...
Melter	58.14	252.14	420 64	24 57
Messenger	57.50	295.00	420 00	12 50
Miller	64.13	272.25	457 83	9 38
Miscellaneous	59.86	271.01	410 95	5 35
Moulder	57.72	268.20	496 78	2 52
Painter	56.68	246.11	403 15	5 57
Paper box makers	57.40	302.00	378 80	.....
Piano and organ factory employé:				
Action maker	58.00	275.38	428 09	.....
Rubber polisher and varnisher	56.46	254.23	426 75	.....
Plasterer	54.85	221.70	499 34	2 50
Plumber and fitter	56.35	269.18	501 94	.....
Porter	65.38	319.50	380 68	.....
Pressman	56.90	296.50	499 10	.....
Printer	57.75	291.49	455 88	6 29
Railway employé:				
Brakeman	69.64	321.00	533 38	.....
Car repairer	57.73	295.87	467 53	4 00
Conductor	74.83	328.08	777 08	.....
Fireman	64.86	312.00	582 00	.....
Various	65.00	316.54	446 69	.....
Reporter	60.00	261.25	498 75	33 75
Salesman	61.22	293.46	420 72	.....
Saw works employé:				
Filer	59.00	260.50	444 25	.....
Handle maker	58 75	265.00	466 25	.....
Shipper	59.25	274.38	355 44	.....
Shoemaker	58.35	281.10	407 71	3 17
Stone cutter	56.96	205.25	533 05	3 36
Stove mounter	55.00	216.78	342 74	8 89
Tailor shop employé:				
Cutter	56.13	281.63	739 00	6 25
Tailor	58.37	248.75	402 08	5 76
Tannery employé:				
Currier	57.27	285.09	429 64	.....
Tanner	58.92	281.33	453 00	.....
Various	58.60	268.80	413 00	.....
Teamster	61.29	289.65	350 07	0 32
Tinsmith	58.34	285.34	427 64	.....
Tobacco roller	50.86	228.29	425 64	3 43
Woodworker	57.00	254.48	389 58	4 00
Woollen mill employé:				
Card helper	59.00	282.29	275 63	.....
Dye house hand	58.80	289.00	316 76	.....
Finisher	59.00	276.00	388 38	.....
Spinner	59.45	287.18	399 07	.....
Warper	58.25	285.75	403 75	1 00
Weaver	59.00	302.14	357 58	2 14
Wool sorter	58.40	294.60	360 12	....
Various	58.67	294.83	329.46	.....
Average for all occupations:				
1888	58.38	269.41	425 12	4 41
1887	58.90	260.93	392 82	7 47
1886	58.21	270.18	403 38	8 22
1885	58.95	269.89	403 18	7 56
1884	59.05	265.14	394 34	4 76
1884-8	58.70	267.11	403 77	6 48
FEMALES OVER 16.				
Hoop skirt maker	58.50	260.00	205 50	.....
Cotton mill operative:				
Drawer in	60.60	259.60	259 60	.....
Weaver	60.20	258.20	235 31	1 00
Average for all occupations:				
1888	56.04	275.85	212 97	0 95
1887	57.25	280.88	214 77	0 72
1886	57.15	272.19	190 32	3 55
1885	57.97	283.51	182 60	1 22
1884	59.47	264.36	181 57	0 50
1884-8	57.58	275.36	196 45	1 39

THE ROYAL LABOR COMMISSION'S REPORT.

Upon the recommendation of the Governor-General in Council, a Commission was issued on the 9th December, 1886, appointing Hon. James Armstrong, Q.C., and others, members of a Royal Commission, "for the purpose of inquiring into and reporting upon the subject of labor, its relation to capital, the hours of labor, the earnings of laboring men and women, and the means of promoting their material, social, intellectual and moral prosperity, and of improving and developing the productive industries of the Dominion so as to advance and improve the trade and commerce of Canada; also, of enquiring into and reporting on the practical operation of courts of arbitration and concilliation in the settlement of disputes between employers and employés, and on the best mode of settling such disputes; also, of enquiring into and reporting on the expediency of placing all such matters as are to form the subjects of such enquiry under the administration of one of the Ministers of the Crown."

Authority was conferred upon the commissioners to summon before them any party or witnesses, and to require him or them to give evidence on oath, orally or in writing, or on solemn affirmation, and to produce such documents and things as the commissioners might deem requisite to the full investigation of the matters into which they were appointed to examine.

On the 16th of November, 1887, a circular was sent out by the secretary of the commission, Mr. A. H. Blackeby, announcing that the commission would hold sittings in various centres of industry, and inviting evidence bearing upon the subject of labor in its various relations.

The first evidence for the province of Ontario was taken in Toronto on the 23rd day of November, 1887, and the last witness was heard at Ottawa on the 8th of May, 1888.

Hon. James Armstrong, chairman of the commission, died on the 23rd day of November, 1888, and Mr. A. T. Freed, of Hamilton, was appointed chairman in his stead.

The commission sat for hearing in the various provinces of the Dominion, but in the synopsis of evidence following only the testimony of witnesses belonging to this province is referred to.

The evidence for the province of Ontario makes 1,195 pages, is given by question and answer (sometimes both question and answer being irrelevant and unimportant), and forms a blue book too diffuse for general reading and too unwieldy for ready handling. The Bureau therefore considers it desirable to give a summary by subjects, covering as far as possible those points in the enquiry of more immediate interest to the working classes. But in order to bring the mass of testimony within the compass desirable in a summary for ready reading, it is absolutely necessary to use only such portions of the testimony as bear directly upon the matter under investigation, thus giving a synopsis of the leading facts brought out in the enquiry full enough to give a fair idea of the nature of the evidence adduced, yet so brief and compact as to be read and digested by busy men who might not have the time or patience to go through the verbatim reports in the massive volume issued by the commission.

ACCIDENTS.—There is no space for a description of the accidents reported in the evidence. Regarding the injuries to indoor workers, the greater part of the witnesses agreed that most of the casualties occurring (save in sawmills) were generally the result of carelessness on the part of the victims. The reprehensible practice of putting belting on machinery while in motion was generally condemned as being a saving of time at the imminent risk of life or limb. One witness said he had known men who had been accustomed to adjust belts while in motion and yet get caught. A Toronto box maker testified that his was a dangerous occupation. He knew shops where it was the rule for accidents of some kind or other to happen every day. It was a usual thing for a man to have two or three fingers taken off by a rip saw, but the danger was seldom taken into account by the employers, for if one man was injured they could get another for the same wages, and they did not have to pay anything to the man who was "run through." The risks run by men employed on building scaffolding was pointed out by H. T. Benson, of Toronto, a member of the Builders' Laborers' Union. He stated that there had been several accidents during the summer. The men who erected the scaffolding in that city were crying out for better material and more ropes and poles. Witness did not think there was a builder in Toronto who had sufficient plant for his business. It was a hurry and scurry until there was an accident. There should be an inspector of scaffolding. Furniture makers also testified as to the treacherous nature of some of the machines used in wood working. F. Rolph, of Windsor, believed the shaper to be the most dangerous machine in the business, yet it could be protected by a hood. New shops should be built four or five feet higher than at present so that the belts could run down. Witness had not known men to be disabled for life by a piece flying from a saw, but he had known some to be hurt pretty badly. S. Peddle, of London, instanced several cases where boys had lost fingers or received other injuries in cabinet factories, the lads being too young to have sense enough to keep from the dangerous part of the machinery. He considered that machinery was not sufficiently protected. While several workmen of various callings and from different parts of the province testified that no remuneration was allowed workmen disabled by accidents, W. Hutchison, member of an Ottawa milling firm, said that if a man in their employ got hurt the firm generally paid him for the time he was off work. Pages 1,134, 1,135 and 1,136 of the evidence give the particulars of accidents to two boys working in sawmills in the neighborhood of Ottawa, one of whom lost three fingers and the other a leg and an arm. These lads had been permitted to move among dangerous machinery although but twelve or thirteen years of age. The shanty man meeting with an accident in the bush is in hard luck, according to one witness. His wound will be dressed by the man working with him, but the wages of the injured man are stopped from the moment he is wounded, while at the same time he is charged at the rate of a dollar per and upwards for board until he is able to resume work or leave the shanty. Regarding accidents to those in charge of steam engines and boilers, A. M. Wickens, stationary engineer, Toronto, said: "I have spent thirty-two years among engines and boilers, and the longer I live the more thoroughly I feel convinced that the attendants are accountable for the explosions." R. E. Menzies, manager of the Producers' Oil Refining Co., Petrolia, said that accidents to boilers were not so common in the oil region as formerly. There were less engines required now owing to improved facilities, and the men attending them were better trained. Enquiries into the dangers attending the working of printing presses elicited the fact that injury to pressmen from accidents was rare. Thomas Pickett, moulder, Toronto, claimed that in his business very few accidents resulted from carelessness, but moulding was in itself a risky business. The evidence adduced concerning the dangers of railway life covers a wide range, and is difficult to summarise. A conductor on the Grand Trunk railway said that one of the greatest dangers to men employed on freight trains is the narrowness of the running-board and the absence of protection on the tops of cars. Loss of life has frequently occurred in consequence of these. Accidents are also occurring from the men catching their feet in the frogs, although not so much of late as they are now more careful. Witness considered the couplings used on the D. L. & W. railway "brutal," and believed these cars should be stopped from passing through the Dominion. He considered the couplings on passenger cars safe, and believed the principle could be applied to freight trains, although at a great expense. In winter the running boards are sometimes covered with ice and snow, and when there is a wind blowing or the train is going around a curve a man is in danger of being sent off the top of the slippery car. John Hall, foreman of the locomotive works of the G. T. R. at Hamilton, gave it as his opinion that the running boards of freight cars should be about three feet wide instead of 16 or 18 inches as now. When a train is in rapid motion and going around a curve it is dangerous to be on the top of a freight car. He had seen brakemen take off their boots when going down a grade. The tops of the cars are very slippery in winter. The witness believed that a railing about two feet high should be placed at the sides of freight cars to prevent men falling off. He also thought it possible to apply air brakes to freight cars so that the necessity of passing along running-boards would be largely obviated. Fergus Armstrong, station master, Hamilton, said that the majority of accidents in the yard were from making up and coupling. The frogs upon the Grand Trunk are blocked, but the blocking does not amount to a row of pins, inasmuch as the frog has to be below the flange of the wheel, and a man's heel is liable to be caught in just the same place as before. The witness, however, admitted that he had not seen anyone hurt by the blocked frogs. He had heard of men being hurt or killed by being blown from the top of freight cars. J. B. Morford, division superintendent of the Michigan Central at St. Thomas, said he had travelled the running-board for six or seven years and had never made a mis-step. He had seen brakemen who instead of following the running-board would jump from one car on to another. The witness also said: "When we have had sleet storms and when I knew the decks of freight cars were in bad condition and unsafe for men to go over I have telegraphed to the conductor and engineer to run their trains with special caution, as we did not want the men on deck on such nights." His line, he added, was about to adopt a coupler that would obviate the necessity of men passing between the cars.

APPRENTICES.—As the advisability of indenturing apprentices to trades is a question that has created much discussion, as well as one which has called for most serious thought on the part of those who are immediately interested in the labor problem as it presents itself to-day, the evidence taken before the Royal Labor Commission is of more than ordinary importance in throwing some light thereon. This importance is two-fold: Firstly, because the evidence is gleaned from both the employer and the workman; and secondly, because being taken at different points throughout the province, it is evident that there was no preconcerted arrangement as to what evidence on the subject was to be given by those approving or opposing the indentureship of apprentices. A very striking phase of the subject, and one not very fully explained owing to want of continuity in questioning apparently, is that although a very large majority of the employers of labor testified their approval of the indenturing of apprentices, yet comparatively few of them insisted upon or entered into partnership in such when employing apprentices. Whether under indenture or engaged through verbal agreement the terms of apprenticeship vary from two to five years in the several callings, and one or two witnesses, carpenters and machinists, who had served their apprenticeship in Great Britain favored a term of seven years. There is very little in the evidence indicating why the system of indenturing of apprentices has died out and that of verbal agreement substituted, except the implication that the boys sometimes run away before completing their terms. With two or three very notable exceptions—a printer, a tailor, and a foreman in a sash and door factory—the witnesses who worked at their callings for wages were more or less emphatic in approving of and desiring the indenturing of apprentices, and were prompt and clear in citing cause for the faith they held by in that particular. The essence of the whole evidence, as to the advantages of the indenturing of apprentices, the results to those who try to learn a trade under the prevailing custom, and the effect thereof upon the possibilities of those who are ever in a competitive market in the sale of mechanical and skilled labor, is fairly summed up in the following evidence: John Bertram (J. Bertram & Sons, machinists' tools manufacturers) Dundas, testified that his firm always employed a proportion of apprentices from sixteen years of age upwards. The term of apprenticeship is four years, and the indenture includes a bond by a reliable party in the sum of $200 as a security for the due carrying out of the same on the part of the apprentice. This indenture contains a clause binding the firm to fulfil certain conditions—to teach the boy a trade. The boys as a rule stay and fulfil the conditions, and when they do so they were always considered good workmen. The firm considered them better workmen than those who came from other workshops, and liked to keep them in its employ. E. Gurney (Gurney Co., foundrymen) Toronto, after defining how the number of apprentices was determined as to the moulding shop, said: "All our apprentices are regularly indentured. There is no well-defined law on the subject of indentures, or else the law is not well understood, as I have never been able to get an indenture drawn up but some lawyer would say it was good for nothing. I think it very desirable that apprentices should be indentured, and so bound to be held to the end of their term, and punished for leaving their employment. For this reason, if a man goes into a moulding room and works for a year he will learn to make one thing; he goes out without being a tradesman at all and hires to make that one thing. The consequence is that first-class tradesmen are not turned out now, notably in the United States, where there are no such tradesmen as we used to receive from England fifteen or twenty years ago, who could do anything in their own line. We get a class of men from the Old Country who, aside from a little attrition, are better than those of the United States and this country. They are generally better than those of the United States. Gurney moulding apprentices will get a position in the Western States sooner almost than any other man, because we try to teach them for the four years, and give them a large experience in their trade." S. Oberndorfer, cigar manufacturer, St. Catharines, employs only indentured apprentices and for three or four years, according to circumstances. Being bound by indenture he took it upon himself to teach the boys, and he always turned out good workmen. J. Rose, cigar manufacturer, London, said the boys in his employ were indentured, but that as soon as their time was up he let them go and got other boys to fill their places. J. Wolfe (Furniture Co.) London, testified that the firm indentured their apprentices; he did not know of anything better. The company never had one of its apprentices to leave it. Wm. Elliott (John Elliott & Son, iron founders) London, does not indenture apprentices, but takes them for five years with the privilege of leaving at any time if they are not satisfied. John Heard, carriage and woodwork manufacturer, St. Thomas, thought that the indenturing of apprentices, if carried out, would be the best for boys, for "as it is now boys only get half the knowledge of the trade—they never get it fully, for they do not put in full time." Arch. Campbell, employing miller, Chatham, approved of a law under which an apprentice would have to serve a certain time under bonded indenture, as under the present system or lack of it "boys will come into a shop and in a year or so they will pick up a sort of a trade and start out thinking they are skilled mechanics." C. Rogers, master cabinet maker, Toronto, testified that, although his apprentices were not indentured, in his opinion it would be beneficial both for the boy and his employer if the former was indentured, but unless the boy was well looked after and well trained it would be no use. He thought the following would be a good course to pursue: First, two months on trial as to adaptability; then indenture for four-and-a half years; raise wages by small advances, and at the end of the term give a bonus of $100. W. H. Anderson, carriage woodwork manufacturer, St. Thomas, said that he employed boys but they were not apprentices—they were "helpers." In answer to the question "Have they an opportunity of learning the trade?" he aptly outlined, in a few words, the prevailing system of the present day in contradistinction to the old-time one governing apprenticeship by saying: "No, it is no trade to them farther than their working at a job, and when they become experienced at it they are able to undertake heavier jobs, the same as men do. It can hardly be called a trade, because we take men who have not been at it before and put them to work, not at full wages, but when they can earn full wages we give them." Miss M. J. Watson, employing dressmaker, Toronto, thought girls would be better paid in her business if they were more competent—the trouble is in getting competent people. She was of opinion that this arose through want of an apprentice system, and continued: "I don't think they could be first-class without serving three years; but as it is they come without any knowledge at all and they are supposed capable right from the first. We have to look after our own interest, and of course they are not taught." James Boyle, employing iron founder Toronto, did not think that a four years' apprenticeship was long enough to produce a first-class workman in his business, and advocated a longer term in the following trite words: "Four years may be long enough for the boy and his father, but as regards the mechanic I do not think in that time he knows enough of the trade to be a mechanic moulder at all events." A general machinist, Toronto, did not believe that if boys were indentured they would become better mechanics than if not so indentured, because when indentured they do not dread discharge. W. J. Campbell, boilermaker, Ottawa, tried the indenture system in his business but it did not work satisfactorily. W. McAndrews, jr., foreman printer, Hamilton, testified on the subject as follows: "I would like to say, with regard to the apprentice system, that I am not in favor of indenturing; I believe that if proprietors and foremen interested themselves in the boys working for them they would only be too glad to work for them and not run away." T. Stoddard, pattern-maker and machinist, Ottawa, did not approve of the indenture system for apprentices. He assigned as cause that he himself had been indentured and did not have his trade taught him, but was bound nevertheless to fulfil his term. When he had finished his apprenticeship he had still to begin his trade. He thought very few cared to indenture their children. J. Wren, journeyman tailor, Windsor, did not believe in indenturing apprentices. A journeyman steamfitter of Toronto, testified that in his opinion there were two apprentices to every journeyman of his trade in that city; that these apprentices were very rarely indentured, and then only when they were two or three years at the business, and were considered valuable by the employers. If an apprentice leaves an employer without the consent of the latter he is "black-listed," and no other employer will give him an engagement. James Stephenson, moulder, in speaking for the iron-moulders' union of Hamilton, said: "We think they should be legally bound, and we would like a Dominion Indenture Act." C. W. Barton, harnessmaker, Toronto, testified that there was no apprentice system existing in his trade in Toronto. He further said that the plan operated in some shops was to depend in a great measure on improvers—young men between apprentices and journeymen. They get a boy at first and teach him to stitch, while at the same time they get other young men in from the country who have served two or three years and who have failed to find work elsewhere. Thomas Bowick, employing blacksmith, Toronto, gave it as his opinion that the necessity for employing apprentices in that trade in Toronto was obviated to a great extent because of young men who have begun the trade in country shops coming in and engaging under instructions. B. Cameron, iron-moulder, Hamilton, believed the indenture system best for the employer, the apprentice and the men. John Davidson, agricultural wood-worker, London, said that an indenture system in his calling would be a great benefit. In reply to the question "How long do the apprentices have to serve before they become journeymen?" he replied: "That is the trouble—they do not serve their time out. They are there for a while, then they leave and go to some other shop and get another job there." S. J. Dunlop, journeyman printer, Toronto, believed that in Toronto apprentices to his trade were engaged by verbal contract. He said that his experience taught him that the class generally employed on country papers were boys. He held that the indenturing of boys for five years—after ascertaining that they were suitable to learning the trade—would be a great advantage to the boy himself, to the employer, and to the trade generally. John Lane, stonecutter, Ottawa, approved of apprentices being indentured, and for the reason that "it gives a boy a better opportunity of learning his trade, because, being indentured, both parties enter into an obligation. The master is bound to teach his apprentice all he knows and all he does not know, or he causes it to be taught by somebody who can. The boy in his turn is bound to study the interests of his employer to the best of his ability. Therefore there is an agreement on the part of both parties to serve each other, which would not be the case if the boy was not indentured. If he is not indentured he can leave when he wants, or if the employer desires to get rid of him he can let the boy go." Samuel Peddle, cabinet-maker, London, testified that the present system of taking apprentices in his trade in London is a bad one, and many who commence to learn it never learn it properly, but a *bona fide* indentured apprentice does pretty well as a rule. At present these boys are hired by the men irrespective of the employer; the man pays the wages agreed upon, and the boy leaves when he likes. Under this system boys learn just enough to be useful to the man who employs them, and he keeps them there. Some boys of extra ability get to be mechanics in time through being obedient, faithful, intelligent and industrious at their work, and when a crisis happens they get pushed into a place and become mechanics without being properly indentured as apprentices. A. Short, journeyman printer, Ottawa, in referring to the employment of boys in his trade said: "We are injured a great deal in this city by boys. It is one of the greatest injuries to the printing business that I know of. Boys are taken into city printing offices without any regard to fitness to learn the trade. Every boy who is about to learn the printing trade should know the general rudiments of an English education—reading, writing, a certain amount of arithmetic, and English grammar. We find boys come into a printing office who cannot do as much as to spell simple words correctly. They are first employed in sweeping out the offices and running of errands ; they receive what education they get in a printing office, and at the end of their five years apprenticeship we find them to be incompetent workmen. It is an injustice to the employer and to them. As a remedy for that I would recommend the indenture system. Now if the bosses gave a guarantee, and the parents gave a guarantee that the boy would fulfil his apprenticeship, and the boy, on commencing his apprenticeship, proved on examination that he was properly qualified as to education, he could not but make a good printer." He believed such an indenture system would have a tendency to prevent or discourage the running away of boys before having completed their full time.

ARBITRATION AND CONCILIATION.—The evidence touching the question of arbitration or conciliation in trade disputes is extensive, and while nearly every person, whether employer or workman, offering an opinion was in favor of arbitration, there was an infinite variety of mind as to how and by whom such arbitration should be conducted. Some witnesses advocated compulsory arbitration, the arbitrators to be appointed by the Government and their decision to be final, while one held that compulsory arbitration would mean the closing up of many places of business. Other witnesses claimed that there could be arbitration without any Government interference whatever, and the trend of testimony appeared to favor local boards as compared with boards appointed by the Government. The difficulty in the way of local arbitration or attempts at conciliation was shown by a London wood-worker, who stated that he had noticed that when deputations had gone from the men, members of that deputation were discharged in a short time. Several witnesses pointed out the desirability of all arbitrators having a practical knowledge of the particular trade or calling in which the dispute had arisen, a Toronto builder giving as an illustration that a tailor could not arbitrate between carpenters. A London stove manufacturer thought that county judges would be the best men to act as arbitrators, as their decisions would have considerable influence upon public opinion. A cabinetmaker in the same city thought the board should be of "good solid business men and workingmen combined." A Toronto laborer said that in the settlement of a strike by the board of trade acting as arbitrators according to the Ontario Act he was certain the men got the worst of it as the arbitrators were employers of labor themselves. This witness favored the French system, as by that plan "before employers can lower wages they have to submit reasons for lowering to a board of arbitrators, and when the men want an advance they have to send their grievances and reasons to the board before they could go out." A Toronto carpenter described the New York State method, and recommended it. There was a local board and a State board. The local board when a difficulty occurs meet representatives of the two parties for arbitration, and inside of ten days either party can appeal to the State board, which is composed of three persons, one of whom is appointed by the party who polled the largest number of votes in the last election, the second by the party getting the second number of votes, and the third had to be a representative of labor. Or the parties concerned could have it taken directly to the State board, and its decisions were final. About 75 or 80 per cent. of the labor troubles in New York state were now settled without the men going on strike. Regarding the Ontario Arbitration Act, A. Blue, secretary of the Bureau of Industries, said that the provisions of the statute had been very rarely acted upon. When employers and their employés quarrelled it seemed very difficult to get them together, as sometimes intense feeling existed. Arbitration was compulsory in France. There was no cessation of work whenever dispute arose, but the court inquired into the matter and its decision was binding on the parties. The arbitrators were appointed by the Government. In Massachusetts one arbitrator was appointed by the employer, and one by the employed, and these two agreed upon the third. If they could not so agree, and the third man was not appointed within thirty days, then he was appointed by the Governor and held office for a year. F. Nichols, secretary of the Canadian Manufacturers' Association, stated that he was not altogether in favor of Government arbitration. The Ontario Act has very rarely been called into force. He thought that by clause 28 the arbitrators were divested of their authority. That clause read as follows: "Nothing in this Act contained shall authorise the said board to establish a rate of wages or the price of labor for workshops which workmen shall in future be paid." Other witnesses also gave it as their opinion that the Act was robbed of its force by the clause above quoted. Although many among the employers were opposed to enforced arbitration with arbitrary decisions, there was a consensus of opinion regarding the strong hold the decisions by arbitration, even of local character, would have upon the parties to a dispute, although it was claimed that after all there was only the honor of the parties concerned and respect for public opinion to back up or enforce any deliverance by a board of arbitrators. The testimony also went to show that as a rule the men were more desirous of submitting disputes to arbitration than the employers were. In fact nearly all the labor organisations seemed to have a provision in favor of seeking conciliation or invoking arbitration before calling a strike. The declaration of the principles of the Knights of Labor was found to contain the following articles:

10. The enactment of laws providing for arbitration between employers and employed, and to enforce the decision of the arbitrators.

22. To pursuade employers to agree to arbitrate all differences which may arise between them and their employés, in order that the bonds of sympathy between them may be strengthened and that strikes may be rendered unnecessary.

BLACK-LISTING.—The number of questions as to the existence or non-existence of a system of "black-listing" in the several trades put by the Commission was not as general as was the case in respect of other matters into which enquiry was made. Despite this, however, the evidence taken indicated that "black-listing" was practiced by some cotton manufacturers, vessel owners, cigar manufacturers and manufacturers in iron, while there appears to be a difference of opinion as to the construction to be put upon the system in vogue on railways. These assumptions are based upon the tenor of the evidence tendered upon the subject and which was in effect as follows: A steamfitter, Toronto, knew that when apprentices left one shop a description was telephoned to the other shops, where they were refused employment if they made application. R. Dennis, builder and contractor, Toronto, referred to the carpenters' difficulty of a few years before. After it was ended, if he remembered aright, there was a list which he believed was called a black-list in connection with the master builders' association. He did not know how it got that name, but he thought it was due to the exasperation of the masters as to certain men. R. Lee, carpenter, Toronto, testified that he did not know the cause of the black-listing of men by their employers. He did not know whether it was because of any action they took in making themselves prominent in the labor movement, or because they were poor workmen. He thought it was sometimes stated after their names—"poor workman." C. Pearson, real estate agent, Toronto, testified that he had no black-list of people who do not pay their rents. A conductor on the Grand Trunk railway testified to his belief that there was such a thing as black-listing on railways, for he had heard of men being black-listed from one road to another. He had heard that the Grand Trunk Co. published a monthly black-list, if the Commission would so term it. The employés of the road call it the punishment sheet. A locomotive engineer, St. Thomas, said a system of black-listing had been pursued, and still affects not only locomotive engineers but all other classes of employees of the Grand Trunk railway. Continuing, he said, "All superintendents demand that we bring with us a certificate of our qualities for the position we seek to assume. It is not like the position of a carpenter, a tailor or a blacksmith, we are placed in charge of a number of lives, and it is necessary that superintendents should know that we have those qualities which will enable us to conduct a train to its terminus. Without that certificate we are powerless, they will not hire us, and we are placed in an unenviable position, for we cannot compel the superintendent to give us one. He may, through personal spite or other reason, withhold that certificate from us. That state of things applies to engineers and, I believe, to conductors and brakemen as well. To-day there is walking in the streets of St. Thomas a man who had a position, and has another position offered to him, but the local superintendent of the Michigan Central refuses to give him a certificate. The black-listing question comes in here. If we had a license system it would work in this way: Having the recommendation of his superintendent a man could go before the board of examiners and get his papers and they would state that he was a practical man and fully able to run a train, and so long as the certificate was not revoked by the board he would be qualified to hold the position set out in the certificate." J. McKenna, moulder, London, testified that he, himself, had been black-listed, and that Mr. McClary had sent a black-list to Toronto and asked Mr. Gurney to discharge all the men who had been in his employment, but the latter gentleman took no action in the matter. J. A. Rose, cigar-manufacturer, London, knew lots of cigar-makers who were black-listed, and said they deserved it. He, himself, had a lot black-listed now. S. M. Hodgins, cigar-maker, Stratford, testified that in September of 1882 each shop in London was paying a different price. To remedy this the union appointed a committee to wait on each employer, and when they went to arbitrate with them in the morning the men found the doors locked and their tools out in the hall. The employers called it a strike but it was a lock-out, for the men had no intention of striking. A week or so after that the bosses caused a paragraph to be inserted in the London papers stating that these people who had been working for them were a lot of robbers, and he believed the employers pledged themselves under a bond—he did not know the amount exactly—not to employ those men for three years. By this course on the part of the employers on that occasion some seventy or eighty men, mostly citizens of London, were scattered from Maine to Oregon, and he did not believe there were three of those black-listed at that time who were residents of London now. J. B. Murphy, moulder, London, knew of black-listing taking place in London in his trade—that is, black-listing members because they were union men. He saw one man himself who was black-listed, and he was sure there were others. He did not ask his employer as to this, as he was sure he would not get correct information on that point. J. T. Carey, secretary Seamen's Assembly, Knights of Labor, Canada, St. Catharines, testified that he knew of sailors who had been black-listed for being too prominent in organising the men as well as determining wages and demanding the same. He, himself, had been black-listed nine or ten years ago and he did not know but that he was black-listed still. He was satisfied that if he went to seek a "sit" on board a vessel next morning many of the captains to whom he was known, personally or by repute, would not ship him on that account. W. Nesbitt, pressman, St. Catharines, said he knew of black-listing in connection with the printing trade in St. Catharines. He was not acquainted with the details, but thought the typographical union of that city black-listed some of its former members because of "ratting," by remaining in an office after being ordered out by the union. W. R. James, foreman printer, St. Catharines, testified that he was a member of the typographical union, and he knew of no black-listing in the printing business in that city. R. J. Mills, cigar-maker, St. Catharines, knew of members of his trade who had been black-listed by manufacturers in St. Catharines. He would not swear positively to this because he did not hear it from the men themselves, but he had good reason to believe that there were men who used to be employed in that city at one time who would not now get a job if they wanted it—all through their standing up for their rights. R. Meek, journalist, Kingston, did not believe that black-listing existed in Kingston, but he had no information on the subject at all. Neither had he any knowledge of the signing of any "iron-clad" contracts in that city. J. J. Bickley, cotton spinner and overseer, Cornwall, testified that he was idle at the time of giving his evidence. He had considerable to do with the late difficulty in the cotton mills. He had taken an active part all through it, and finally acted as arbitrator on behalf of the help in effecting a settlement. He knew he was black-listed, because he was given to understand that he would be black-listed all over Canada for being a Knight of Labor and taking part in labor matters. F. Armstrong, Hamilton, testified that he was a Grand Trunk railway station master. He said the company's rules at that time require a man to get a certificate from his last employer testifying to his good character. He could not say that this was an understood system between different companies, but he knew it was the practice. He did not look upon this custom as a species of black-listing, because he thought that as regards a railway company they should know whom they were employing.

CHILD LABOR.—While the very important question of the employment of child labor in mills, factories and in the various trades and mechanical callings might with propriety be considered with and incidental to that relating to apprentices, yet with the design of emphasising the opinions and admissions, under oath, of the witnesses examined before the Commission, the subject is here dealt with under its own caption. While the evidence does not instance many cases where children are employed in contravention of the age limit defined by the provisions of the Ontario Factories' Act, yet there is sufficient to justify the inference that in some instances employers, while literally within the letter of that law, were not very particular as to whether or not the spirit thereof was complied with. The great majority of the witnesses examined were aware of the provisions of the Act referred to, and those of them who were employers testified to their desire to conform to the requirements thereof and as advised by the inspectors acting under it. Only in certain parts of eastern Ontario was it found that, at that time, the inspector for the district had not visited mills and factories as required by the law. With the object of enabling the reader to form a fair judgment on the subject, in so far as the evidence tends to that end, the following is submitted as a fair synopsis of the testimony of important witnesses appearing before the Commission: Dr. Wm. Oldright, Toronto, testified that a great many of the accidents that occurred in machine shops, in box factories, in carpenter shops and in planing mills occur to boys. He thought that boys were employed to do a great deal more work about machinery than they should be, and he thought that such work should be done by persons who are older and more careful. A. Eichhorn, cigar manufacturer, Toronto, employed a certain number of children in doing inferior work in his factory, but none of them were under the age determined by statute. P. Freysing, cork manufacturer, Toronto, always made it a point to ask the age of the boy or girl before employing them. He had one girl employed who was but thirteen years old. J. Firstbrook, box manufacturer, Toronto, employed boys taking away from saws, attending nailing machines, and such work as that. He employed three boys between the ages of twelve and fourteen, but they did not carry lumber from the saws; they worked the nailing machines. W. H. Williamson, gentlemen's tie manufacturer, Toronto, gives employment to girls generally, but had none under fifteen years of age. F. P. Birley, paper box manufacturer, Toronto, employs girls chiefly, but did not care to engage any under sixteen years of age. F. W. Wilson, nurseryman, Chatham, in reply to a question said: "I think it is a good thing not to employ boys in such work as mine. When you want good work done you cannot get it done by boys." T. H. Taylor, owner of woollen mills, Chatham, testified that there were no boys under twelve years old employed in his mill. J. A. Rose, cigar manufacturer, London, testified as follows: "We do not employ any cigar-makers now; we employ girls and boys. We take a girl and teach her to make the inside of a cigar, what is called the bunch, and we teach another girl to roll them up. We do not take them under the age prescribed by the factory law, I think fourteen years. You cannot tell the age of a girl well." A. W. Porter, (McCormick Manufacturing Co.,) London, said the firm was engaged in the manufacture of crackers, biscuits, confectionery and everything in that line. The company did not employ any one under sixteen years of age, but there were instances where girls tried to deceive them as to age. G. T. Tuckett, tobacco manufacturer, Hamilton, in his evidence stated that he employed about 300 hands, and of these some 120 to 150 were boys and girls who were changed from time to time. In continuance of his testimony he also said "We have a rule that firms have to be guided by, that no one shall be employed less than fourteen years of age. We had some factory inspectors going through the factory and I told them we had a great deal of trouble finding out the age. They told me they were going to get out certificates which parents would sign. Generally these children are those of mechanics' families and poor people. Some are the children of widows." Being asked "Would it not be better for them to go to school than to work for you?" Mr. Tuckett replied, "Well, the mothers come to me and say that their children will not go to school, and in order to keep them off the streets they send them to me." J. I. Anthes, manufacturer of children's carriages, Berlin, said that he often employed boys and girls in this industry to do cheap work, but that of course girls under fourteeen years of age could not be employed. A. H. Pettit, fruit-grower, Grimsby, employs children in his factory at ages running from eight years upwards, and said also that children of six and eight years of age were employed in picking berries. J. Bell, secretary-treasurer of the Ontario cotton mill, Hamilton, testified that the company employs youths and men as well as girls and women. Boys and girls were employed as carders, spinners, finishers and weavers, but none of them were under fourteen years of age. The law requires this. B. R. Nelles, fruit and vegetable canner, Grimsby, said the women and girls employed at his factory were the daughters of mechanics and laborers. The girls were from twelve to eighteen years old. Wm. Birkett, secretary-treasurer Dundas Cotton Mill Co., Dundas, testified that in the matter of age of the employés the company was acting strictly in accordance with the provisions of the Ontario Factories' Act. He thought children under fourteen were employed in the factory before that Act became operative. Sixty hours constituted a week's work in the mill. and he did not think the employment of children at such an early age had a tendency to physical deterioration. So far as he was aware he could safely say, without fear of contradiction, that the morals of the people employed in the factories are quite as good as those of any other class. Wm. Wilson, manager of the Kingston Cotton Co., Kingston, testified that there were thirty-four boys and forty-eight girls among the employés of their factory. They had boys under twelve, but he did not think there were more than six girls under fourteen years of age in the employ. These were employed before the inspector's visit, who did not say they were to be discharged, but that in future the Act must be complied with. John Hewton, manager Kingston Hosiery Co., Kingston, in his evidence said there were between one humdred and twenty and one hundred and forty employés in the mill, and that of these about one-half were females. The youngest girl employed told the inspector that she would be fifteen years old next birthday. All worked sixty hours per week. A. Gault, secretary Stormont Cotton Mills Co., Cornwall, testified that there were two hundred and twenty-eight females employed in the mills, besides fifteen children under fourteen years of age. There were thirteen boys under fourteen, and no girls under that age. The mills start at half-past six in the morning and knock off at half-past six in the evening. An hour is allowed for dinner, and on Saturdays the working hours are from half-past six till twelve o'clock. J. P. Watson, secretary and manager Cornwall Manufacturing Co., Cornwall, said there were about forty-five boys and girls under eighteen years of age in the employ of that company. As far as he knew the factory was found in a satisfactory condition when the inspector paid it a visit. E. King, boss carder, Stormont Cotton Mill, Cornwall, testified that there were some eighty or eighty-five employés in his department, only about one-half of whom were females. There were some children, and two of them were under fourteen years of age. Children had to work in the mill a couple of weeks before they received any wages. The lowest wages paid them was 40 cents a day. Fines were imposed on children for bad work, negligence and breakages. S. Shoefelt, carder, Stormont Cotton Mills, Cornwall, in reply to a question as to whether any of the boys and girls in his room were under fourteen years old, said "Not to my knowledge—they say they are not." J. F. Wood, manufacturer of box shooks, Ottawa, had half a dozen boys of thirteen years of age in his employ. He thought all of them could write, as they had to sign for their wages. W. Anderson, book-keeper for J. R. Booth, Ottawa, in answer to the question "Does your concern employ boys in the mill?" said "Yes, a lot of boys. I do not know what they do, but I think they are about the shingle and lath business." He could not tell the age of the youngest—twelve or fourteen years, he thought. He did not think there were any of them younger than twelve. Some of them were engaged by men having contracts and a few of them by the firm. J. R. Booth, manufacturer of pine lumber, Ottawa, testified that it was true he employed a number of boys, and that they work from half-past six in the morning until six at night. He also thought he employed boys who worked from seven o'clock at night until half-past five or six the next morning. He had never paid any attention to the Ontario Factories' Act, nor was he aware that under its provisions boys of a certain age were not to work more than sixty hours a week. S. J. Dunlop, printer, Toronto, had seen boys thirteen years old working in printing offices all the year through. He considered that age too young, especially in view of the school law which provides that boys from five to sixteen shall attend school for at least six months in the year. This law, however, is being ignored by parents. John Callow, carpenter, Seaton village, testified that the introduction of machinery in his trade increased boys' labor and reduced that of men. It increased the former because a boy can tend a machine that will do many men's work, and his wages would not average one-third what a man would get. He knew where a boy was running a stationary engine. Thos. McNally, wood-work machine hand, Windsor, testified that boys go near the machines to work them without being practically acquainted with their working. He had charge of two or three machines himself, and had a boy there. He set the machine and started the boy running it. He had about a dozen boys the last three or four months: they were cheaper than machine hands. G. S. Hope, wood-worker, Chatham, knew that boys were set to work machines without having been previously taught. There are "green" hands taken on and put at machines whereby mechanics are sometimes put in great danger—such as putting a boy at a rip-saw and probably he may cause the saw to come back on the man who is working it. John Davidson, agricultural wood-worker, London, testified that in the shop he was employed in boys worked at the planer, the rip-saw, the cross-cut saw, jointers and sand-papering machines, and that every week or two an accident occurs—the boys get their fingers cut off. He knew a case where a boy not over sixteen years of age on being apprenticed to the wood-working business, and only working four weeks, had been put to running a machine—probably he had never seen a machine before—and four of his fingers had been cut off. The boys in the town and the firm kept him a month and then he was discharged. This boy is now working at painting. John Allenby, journeyman tailor, London, in reply to a question, said that there was no child labor employed at his trade in that city, unless it was utilised by women. S. M. Hodgins, journeyman cigar-maker, Stratford, in his evidence testified as follows: "When they are working in full blast one hundred and fifty people are sitting at cigar tables in this city. Out of that number there are only thirteen men, the balance are young women and children, boys and girls. A great many of them should be at school. Their age runs from twelve years up--about eleven or twelve is the youngest. They are secured by indenture; the majority of them are bound, and when their time is up they of course demand a little more pay, and then their day of usefulness is gone. They have to skip; they go to Chicago, Detroit and all over the country. Some get work, some wind up in prison, more turn out prostitutes, and so forth." Jas. O'Donnel, carder and spinner woollen goods, London, said he thought the Ontario Factories' Act should be amended so as to have the age at which children should not be allowed to work in factories set at fifteen. He held that at thirteen a boy was only a child and had not half his senses. He claimed further, that in large shops girls are liable to become immoral—they heard immoral words. To avoid such a calamity he would stop child labor in them. B. M. Danforth, journeyman nail-maker, Hamilton, testified that the boys engaged in his trade were employed by the men and not by the employers, and that the latter had nothing to do with regulating the wages of the boys, who were always fully fourteen years of age. John Wilkins, grocer, Kingston, appeared before the Commission as a Knight of Labor, and during his evidence said there were girls employed in the knitting mills—all over eighteen years old, he thought—and they work, as is also the rule in the cotton mills, 61½ hours per week. He knew this as he lived but a short distance from the knitting mill. He knew of some days on which girls only earned 25 cents. He was informed of this by the party they boarded with and who works in the establishment with them. He knew personally, having it from their mothers, that the youngest girls' ages were between fourteen and fifteen. L. Garon, journeyman baker, Ottawa, knew there were young children working at baking in Ottawa. He thought one he knew was not more than twelve years old, and had to work at night when it was necessary. Joseph Lefebvre, invalid, Ottawa, (whose evidence is translated,) testified that he accidently fell into an uncovered hole in a saw-mill, and through falling into which he had his arm and leg crushed by the axle of a wheel. He was twelve years old at the time of the accident. The employer gave him $10 besides the wages due him at the time, and the employés made up a subscription of $25 for him. After his recovery he sought employment of some kind that he could perform in the service of the same employer, but always unsuccessfully. There were boys at work there now whose ages might be from twelve upwards. These boys work during summer and in the winter time they attend school. A youth engaged in a match factory at Ottawa, told that he was thirteen years old and was working during the then past fourteen days at 45 cents per day. He worked in a mill, and at driving horses before that, but he could not say how old he was when he first began to work. He had only worked half-a-day in Booth's mill when he got his arm maimed. He was drawing a big piece of plank and fell with one leg in a hole, through which he lost one finger; he then made a grab and seized the saw. He also said that the little boys engaged in these mills changed places very often with the object of bettering themselves. Another youth employed in a box factory in Ottawa did not know how old he was, and had not made his first communion, neither could he read. He had been only one week in the present factory, but had worked elsewhere three months. He did not know how much he could make a day, he had not been told yet. His work was to load up and carry little planks that were cut, and he worked near a saw with a man. Boys were sometimes caught in the saw. ————, Ottawa, worked in a box factory at the Chaudiere, and was paid 25 cents per day. He was twelve years old, and was engaged carrying blocks. He worked from six o'clock in the morning until six at night, and was allowed fifty minutes for dinner. ————, Ottawa, testified that he was thirteen years of age and was working in a box factory at the Chaudiere, at the board machine for making boxes. There were ten saws in that machine and there was nothing at all to prevent his hand being thrown on those saws. There were boys younger than himself working there, but he did not know the age of the youngest. ————, Ottawa, was fourteen years old in August, and works in Booth's mill at the Chaudiere. He worked from six until twelve o'clock and then got fifty minutes for dinner, after which he had to work until half-past six in the evening. There were boys there younger than himself—boys of eleven and twelve years of age. Two or three of these little fellows work at night; they begin at seven o'clock at night and leave off at five o'clock the next morning. Some of them are under eleven years of age, but he could not say that any of them were under ten years. They work at the butting-table, carrying blocks away from the saw. James R. Brown, factory inspector, Toronto, in his evidence testified that he was inspector for the central district of Ontario. He found a large percentage of children employed in some places—in the cotton mills, in some woollen mills, in cigar factories, in knitting mills and in some others. Although girls are not allowed under fourteen years of age, nor are boys under twelve, yet he found about forty girls under fourteen at work, and six boys likewise employed whose ages were under nine years. Besides these he also found some boys at work in his district whose ages were ten and twelve years.

CONDITION OF THE WORKING CLASSES.—The evidence given before the commission on the general condition of the working classes in Ontario is, on the whole, of a rather favorable character, and is indicative of a very decided improvement on the general condition existing fifteen or twenty years ago. This is especially noticeable in respect of the class of houses and in the matter of sanitation, although leaving much yet to accomplish as to the one and the other, especially in the larger cities. It will be seen also that the worldly circumstances of the witnesses themselves had an effect on their estimates of the purchasing power of a dollar. Hence, no doubt, the divergence of opinion, not only on this but on almost every question taken cognizance of by the commission, and in the consideration of which evidence was taken. R. Dennis, builder and contractor, Toronto, testified that he had in his employ journeymen carpenters who had acquired property. They were frugal and industrious, and he thought they had benefited by the nine-hour movement—that is to say, they had more hours to spare to apply to purposes of their own benefit by building for themselves good homes and nice good properties, and not much mortgage on them either. He did not see any reason hindering a man, having an average family to maintain and exercising ordinary prudence, and earning as a rule $2 per day, from saving money enough to purchase his own house, if he has only pluck and makes use of all his spare time to build a home. He thought they were vastly better off now than they were when he first came to Toronto; they live in better houses, and many have carpets on their floors. House-rent in Toronto is certainly dearer than it was twenty-five years ago, but a great many men are getting more wages than they did a few years ago. As to the cost of provisions, he thought that things were now reasonable on the whole. Henry Lloyd, journeyman carpenter, Toronto, said that within the past eleven years carpentering had improved slightly in Toronto, but not in proportion to the improvement in other trades in the building line. This improvement he certainly attributed very largely, if not wholly, to the organisation that has been continually taking place in the carpenters' ranks. S. M. Hodgins, cigarmaker, Stratford, thought that if the Government wished to help the cigar trade the best thing it could do—that is if they want to do it—is to reduce the excise duty to $3 per thousand, and to look well into the Factories Act and enforce it. Also to place the regulation with respect to apprentices and make the bosses teach them the trade thoroughly and not send them out botches. C. Wheeler, cattle dealer and butcher, Chatham, said that the working people in that town to some extent watched for and secured bargains in meat, fowl and vegetables on the market, but he pointed out further that peddlars and middlemen are the sharks in that business; they get the lion's share of these bargains. Speaking of the condition of farmers, Mr. Wheeler, as one who travelled about the country a great deal, said: "Their way of living and keeping house, their modes of coming to town, their dress and the dress of their families, the furniture of their houses, and all that sort of thing, have improved immensely; there is no doubt at all of it. There is a wonderful improvement in that respect, and I think there is in their wealth, too." J. Oliver, (Oliver & Son) furniture manufacturer, Ottawa, did not know of any one in their employ at the present time who owned their own property; none of them were well off. He thought wages were about one-quarter more to-day than they were ten years ago. A. W. Porter (McCormick Manufacturing Co.), London, testified that the company's men as a rule were very successful; ten or twelve of their journeymen lived in houses of their own, and a few had a little more. T. McKetrick, oil refiner, Petrolia, did not know that the laboring men in Petrolia owned their own houses; a great many rent the houses there. He thought that when they got steady work they earned enough to keep them the year through—that is by exercising a little economy. He said rents ranged from $6 to $12 per month according to size and location of the house, but he did not think laboring men could afford to pay the highest figure mentioned. He had heard of men being paid in store orders in that place some time ago, but did not know whether this was done now or not. He was aware that workingmen did not like the system; that it was objected to. He did not think that wages or the cost of living had increased in Petrolia during the last five years, nor did he believe there was any increase in rents during that time. C. Rogers, cabinet maker, Toronto, held that a man at $2 per day, if he is sober and industrious, is placed in as good a position as his employer as far as making money is concerned, considering the way business is cut up at the present time. The men in his employ have lived respectably and, for $2 a day, he thought comfortably. They have nothing to do but attend to their work, and it is not hard upon them. J. J. Franklin, superintendent Toronto Street Railway, testified that drivers and conductors in the employ of the company worked, on an average, 11½ hours daily, and this did not include the dinner hour. He said he knew quite a number of men in the employ of that company who own and are living in their own houses, and to his certain knowledge these men earned the money in the company's service. There were quite a number of mechanics working on the cars just then, and mechanics sometimes apply for positions as drivers. R. Kerr, foundryman and machinist, Walkerville, was satisfied the general condition of the men had improved in every respect during the past ten years. He thought the mechanic of to-day better both intellectually and morally, and that if he tries to do right he is taken more notice of than was the case ten years ago. He thought that, considering the wages earned, a man could save a little money taking one year with another, but the amount would depend greatly upon his family and the way in which they lived. They cannot save much money because there is not steady employment all the time. He would be in favor of shortening the hours of labor, so long as all were governed by the same law in that respect; he thought shorter hours would be better in every respect. He felt that a man had but little time for his own pleasure or for enjoying himself with his family if he works ten hours a day. A couple of his men owned their own houses. G. Anty, warpdresser, Cornwall cotton mill, Cornwall, knew pretty much all the mechanics in that town. There were many improvident people among them, just the same as in other places. Yet he did not think there was any real misery on account of the inability of any person to get work. He believed that it was on account of intelligence some people got on much better than others; the more intelligent the people the better their standing and the more careful they become. Robert Lee, carpenter, Toronto, thought that, as a general rule, workingmen, in comparison with fifteen or twenty years before, had improved in their moral and intellectual condition, mainly due, in his mind, to the spread of temperance and general education. To the best of his knowledge the shortening of the hours of labor had a tendency to make men more intelligent. Thomas Brick, alderman and carter, Hamilton, testified that the general condition of the working people of that city was very bad. He could not say what it cost Hamilton to provide for those seeking employment, but it was enormous. These people were chiefly immigrants, who arrive in the country destitute, because there were no men who have been any length of time in the country who are so hard up that they cannot make a living. He thought one of the great difficulties was the overcrowding by immigrants year after year. William Bell, Relief and Health inspector, London, thought the general condition of working people in London was now much better than in the past, and that at the time of giving his evidence the sanitary condition of the city would compare favorably with that of any other city in Canada. Houses of a fair character could be rented in the suburbs for about $7 per month. A. Campbell, miller, Chatham, testified that one or two of his employés owned their houses, but the larger number did not, as it was hard for a man with a wife and family to provide for to do so. He did not think Chatham a dearer place to live in than other places, and was of opinion that $7.50 per week would be about the average wages, H. A. Patterson, manufacturer of doors, blinds, etc., mayor of Chatham, did not think there was much actual poverty among the permanent residents of the town. Not many of those in his employ owned houses, neither do many of them save money. He paid from $9 to $11 per week to skilled men, and $7.50 per week to unskilled men. He said the sanitary condition of the town was very unsatisfactory, owing to imperfect drainage and the want of a water-works s stem. W. Stuart, jr., contractor, Ottawa, said the present condition of the working classes in Ottawa was very fair, and that probably two-thirds of its mechanics owned their own houses and the properties they lived on, while a few of the laboring class also own houses. G. M. Jenkins, carpenter, Windsor, said that in England wages were not so high nor were rents so high as in Canada. He was satisfied that such articles as clothing and groceries were cheaper in England than in this country; and that one shilling in the old country would go nearly as far as one dollar would in Canada. He also pointed out that the men in England are able to work a little longer in the year, as the seasons are not so severe or so long.

Constancy of Employment.—The evidence relating to constancy of employment was varied, but the greater part of the testimony went to show that steady work was not as general as might be desired. In a few establishments a regular run of work was reported, but in a majority of the callings broken time was common. Some witnesses attributed this condition of affairs to the fact that improved machinery has reduced the demand for manual labor, and that in most manufacturing concerns surplus stock accumulates at certain seasons, when the workmen must lay off for a time, either by divisions or all at once. On this question of regularity of work a line can easily be drawn between the testimony of employers and employés. For instance, a member of a western agricultural implement firm states that his men work between ten and eleven months, while a workman in the same place says that he could find employment in the factory for but seven or eight months, and that in idle time he had to take work where he could get it. In that same line, in another city, a workman stated that they worked only about seven months in the year. A Kingston boiler-maker testified that he had not received constant employment, as the works had been shut down and had but lately started again. Two London shoemakers also gave evidence as to the irregularity of employment in their trade, A Toronto box manufacturer, and a brass finisher in the same city, stated that their respective establishments had been open all the year, but in the box factory the men were lattterly working only 44 hours per week. Bricklayers, plasterers and stone masons of course reported much broken time, and carpenters were also found who were idle several months in the year. A Toronto carpenter stated that shop hands were employed pretty steadily, but that outside men, through bad weather and other causes, lose about one-sixth of their time. This witness added that about two-thirds of the carpenters of Toronto were employed at outside work. Men who were good meehanics, and steady, industrious men would find pretty steady work. A Toronto employer said that for years past carpenters would be able to work 200 days in the year, and that he had men who worked 300. A third Toronto witness, a working carpenter, said he did not suppose that the average carpenter worked more than seven or eight months in the year. A Windsor carpenter said that the men worked eight or nine months in the year, and that the past season was the best since he had been in the country. And so in this, as in many of the other callings, the witnesses differed. A painter testified that nine months was considered a season's work. Coopers were not steadily employed as a class, but cotton mill operatives testified to pretty constant work, except where hindered by spring floods and a strike. There was a wide divergency of testimony on the question of farm labor. A Southwold farmer stated that it had been the habit of late years, more than formerly, to hire for the summer season or the six months period, as the men seemed to prefer such a term. Mr. Smith, the immigration agent at Hamilton, however, gave evidence to the opposite effect. He said that fifty men were now employed the year round to one that was employed when he took charge of the agency eleven years before. The weight of testimony, however, was to the effect that the greater number of farm hands were employed merely for the busy season of four or six months, and not by the year. Foundrymen generally were in pretty regular employment, more especially those in the railway shops, but even among this class of workers there were some who stated that they had not found regular work. Those engaged as general laborers varied in their experiences with their locality, some claiming constant employment, while others said they could find but eight or nine months' work in the year. A St. Catharines ship carpenter gave a gloomy account of the condition of affairs in his trade. He said that nearly all the work now done was in the way of repairs, as there had been hardly anything new built for three years. Two Kingston shipwrights gave a brighter report, one claiming ten months' work in the year and another full time. A London woollen mill operative stated that if he worked eight or nine months out of the twelve he was doing well. Woodwork machinists as a rule did not appear to have steady employment. In summarising the evidence given on this question, as, indeed that on many other questions coming before the Commission, much difficulty is experienced in coming to a clear and satisfactory conclusion as to the actual condition of affairs. In many occupations but a single representative for a large district gave testimony, and he may or may not have had the average experience of his craft so far as steady work is concerned. Hence the testimony is weak for comparative purposes.

CONVICT LABOR.—A variety of opinions on the question of the employment of convicts will be found in the following summary of evidence. The first witness stating anything definite on the subject was a Toronto machinist, who claimed that when the car shops were run in connection with the central prison some years before they interfered to some extent with outside work in his line. T. Pickett, moulder, Toronto, said that convict labor was injurious to honest labor, although he believed that prisons should be self-supporting. Prisoners should be employed at something that did not come in contact with free labor. John Kane, carpenter, Toronto, thought it advisable to employ convicts, but not so that their labor would compete in the market with outside free labor, and at a lower figure. He considered it right and proper to employ convicts on Government works of any kind even though that would be injurious to a certain extent to outside labor. Witness suggested that prisoners might be used beautifying the surroundings of public institutions. Prison labor should not be put into the hands of private parties, because the man who could employ them at a lower price than honest labor would be able to market at lower prices, and thus competing with outside men a lowering of wages would result. A. W. Wright, journalist, Toronto, declared that the convict was sent to prison not so much for punishment as for reformation, and he should be so employed that when he leaves the prison he would be able to earn his own living without having to go back again to prison, and consequently he should be taught some useful employment. But the product of the convict's labor should not be allowed to go into competition with free labor, and the only way to prevent that would be by employing convicts to do work for the state, such, for instance, as making boots and shoes and other articles required by the Government. Witness did not think workmen had made up their minds as to the best system of employing convict labor, but they were all agreed that the placing of convict labor on the market was an evil. If there was a surplus, it should be given to charitable institutions. Witness admitted that there would be a fairness in distributing the earnings of convicts among their families. James McKenna, moulder, London, testified that six convicts from the prison at Elmira, New York, had been working in the McClary works. Four of these had got drunk and were discharged, but the other two conducted themselves like gentlemen. They had come out on tickets of leave. J. B. Murphy, of London, added that these men had to report to Mr. Gartshore (representing the employers) and he in turn reported to the headquarters at Elmira. Mr. McClary, who also appeared before the Commission, would neither admit nor deny that such men were in his employ. The representative of the Hamilton Moulders' Union stated that that organization had condemned the practice of letting prison labor to contractors. W. J. Vale, Hamilton, said prisoners should not be kept idle, as it would be against their health, morally and physically. He had lately read the report of one institution in Pennsylvania where prison labor was abolished, and there was an increase of 5 per cent. in insanity among the prisoners. Witness believed that all goods made by prison labor should be stamped. The convict should be allowed a per diem wage, a percentage of which should go to his family for their support, as had been done in California, in Lansing, Mich., and, he thought, in Albany. Alderman T. Brick, of Hamilton, said that he had at one time worked at broom-making, and that prison labor had destroyed that business. This assertion was supported by John McKenna, of Hamilton, a broommaker, who stated that there was a much smaller number of persons employed at broommaking now than formerly, which was owing largely to convict labor being employed. He further said that the effect of Messrs. Nelson & Sons getting a prison contract was to close their factory at Montreal and their shop in Toronto. Witness claimed that there was a difference of sixty cents a dozen in favor of prison made brooms, without considering the matter of rent and other extras. J. S. Anthers, of Berlin, manufacturer of children's carriages and other goods, said that he made hand-sleighs, but there was no money in them on account of Toronto prison labor coming into competition. Skilled labor was not required to make such an article. If the product of prison labor were placed on the market at the price of free labor any dealer would give the latter the preference. Witness thought the prisoners should do some work, and if they worked they were certain to clash with somebody. T. Towers, carpenter, Hamilton, thought the State should provide the necessary work for convicts, and that the surplus they might create over and above their keep should go towards maintaining their families. All the product of prison labor should be labelled as such. Henry Lloyd, carpenter, Toronto, declared that he had a decided objection to convicts being employed at any trade whatever. As a rule their work was inferior. If they were to be employed at all, he would have them come into competition with the very best workmen. The surplus earnings of prisoners should aid in the support of a technical school for mechanics, or could be disposed of in the support of their families. Robert Baird, carpenter, Kingston, believed that convicts should be employed on Government work. R. Meek, journalist, of Kingston, also advocated the employment of convicts upon Government work so far as it could be done without interfering with free labor. John McNeil, stove-moulder, Kingston, asserted that he would rather see the prisoners idle than that their work should come into competition with free labor. He suggested smelting works as a suitable industry for the penitentiary. Article 12 of the declaration of the principles of the Knights of Labor, read before the Commission, is as follows: "To prohibit the hiring out of convict labor." Warden Massie, of the central prison, Toronto, testified at length on the question of prison labor. He stated in the first place that convicts could not be employed at anything without coming into competition with outside labor. There was a great diversity of opinion among prison managers as to whether convicts should be taught hand or machine work. Witness did not believe the Government would be able to utilise convict labor successfully without loss. He had the idea that prisons should not only be places of punishment for the purpose of deterring others from entering the criminal classes, but they should be reformatories to adapt men to honest work in life The principal lines of work now carried on in the central prison were wood-working, broom-making, tailoring and shoemaking, and there were a few machinists employed. The greater part of the labor was let out by contract; the authorities received so much per head from these contractors. There was an average of about seventy prisoners employed during the year. The contract was to be discontinued upon its expiry. The contract system had been in force about twelve years. Convict labor had not driven free labor from the market. The Government might manage at a profit if it would enter into the same economic principle of managing the labor as employers do outside, but it could not compete with free labor. Very few contractors made money out of convict labor. Witness did not think it would have any effect upon prison made work if it was stamped as such when it was sent out. If machinery were done away with prisoners could be taught very little. If, said the witness, you put a man who has not been accustomed to mechanics' tools, and who is on a sentence of six months, to manufacture some articles, all his work will be botched; but if you put him to a machine he not only gets accustomed to it but he becomes master of it and turns out perfect work, and on leaving the prison he will seek employment at the same line of work. The contractors at the central prison supply the foremen. Most of the prisoners prefer to work at a task, as after they have done it they can go on and do extra work for which they get paid. The contractors paid the Government forty cents for ten hours work of each convict. The Government found the engine and boiler and the main line of shafting, and the contractors themselves supplied everything else. The contractors, however, did not make much out of the matter, and were anxious to sell out. Profit was not among the first considerations in the employment of prisoners. The first duty of the state was the safety of the prisoner, and then to work upon his reformation. The goods manufactured in the prison were not sold under their value. Witness knew that the contractors had often refused to execute contracts at prices paid to outside labor. Brooms could be made much cheaper in Quebec than the contractor in the central prison was paying for the same work. Contractors were not allowed to give the men rewards for good conduct, as that would be interfering with prison discipline. There were some married men who had made quite a little money in the broom-shop, and paid it to support their families, and in some cases single men had saved money. Witness was emphatic in the statement that no contractor had anything to do with the prison life, nor had he any influence upon it in any shape or form. The contractors could only give out work, instruct the prisoners in the use of machinery and the keeping of the tools in order. Prisoners had sometimes been punished for not performing their allotted tasks, but the task was never more than a man should be called upon to do. The task was fixed by witness. Warden Lavell, of the provincial penitentiary, Kingston, in his testimony stated that if a skilled workman came into the penitentiary he was generally placed on the kind of work he was accustomed to. Men would go out of prison worse than they came in unless they were taught intelligent labor. There was now no contract system in the provincial penitentiary. No work was made only such as was required for the prison, but they could do more. He believed that the percentage of work done in the penitentiary was so small that it would not perceptibly affect free labor, and the compensating advantage of having men prepared to work was greater than any loss arising from competition. Witness stated that the general opinion of all wardens whom he had met in the United States was in favor of intelligent labor. A portion of the profits should go to the prisoners, as it would have a tendency to encourage them in hopefulness.

CO-OPERATION.—Article 19 of the declaration of principles of the Knights of Labor is as follows: "To establish co-operative institutions such as will tend to supersede the wage system, by the introduction of. a co-operative industrial system." A large number of witnesses were questioned regarding the existence and methods of co-operative establishments, but in only a few instances was anything definite elicited. With the exception of one or two concerns in London, co-operative stores do not appear to have flourished in Ontario, and co-operative building had fared even worse. Little or nothing was brought out to show the existence of any plan of co-operation in the way of a sharing of the profits by workmen. Some theories were advanced, but no facts were adduced as to the actual result of such a system in the province. A. Blue, secretary of the Bureau of Industries, said that two co-operative stores had been carried on in Toronto for several years, and had been fairly successful. Their object had been partly for investment, but mainly to furnish goods at low prices. H. Lloyd, carpenter, said that he knew of one case of co-operative building by carpenters in Toronto, but that he was not very well posted in the matter. It was an experiment, and from what he could gather it had been a failure. Richard Southwell, carpenter, stated that he had a little experience in a co-operative store in the west end of Toronto, but it was not a success, although there was sufficient capital, and the manager was a man of good judgment and a trained grocer. One cause of failure be believed to be bad debts, and another reason was that the members did not buy all their goods at the store. R. J. Fleming, of Chatham, said that a co-operative biscuit factory had been started in his town, but that it had failed from lack of capital. J. E. Smith, painter, of Chatham, testified that not a great deal of capital was required to start in the painting business, and that a couple of journeymen often co-operated in taking and filling contracts for house painting, etc. James McKenna, moulder, of London, in his evidence instanced the case of Burrows, Stewart & Milne, Hamilton, whose foundry had been started as a co-operative establishment, and the firm was now a strong one. John Davidson, agricultural wood worker, London, said he was in two co-operative societies, and could buy his groceries and provisions a good deal cheaper by co-operating than otherwise. His wife had recently told him that the $2.50 worth of provisions just then purchased at the co-operative store could not have been bought for less than $3.50 in an ordinary shop. On coal oil, for instance, he could save 5c. on every gallon. These co-operative establishments had been in existence in London for three years, and the witness was still dealing with them. He had also been a shareholder in the Woodstock co-operative match factory, but from lack of proper management it had suspended operations, although the members still held the plant. There were fifteen members in the concern. Samuel Peddle, cabinet-maker, London, said that he had a little experience with co-operative building societies—more than he desired. He had lost $60 by one. But he belonged to a co-operative store the members of which bought in a retail way at wholesale prices. They sold only to stockholders, who had to be connected with trade unions. After paying for a share, any order given would be sent to a wholesale house to be filled in a retail way. Cash was paid with the order, and any money not required was refunded when the goods were sent home. Those co-operating got wholesale prices and 3 per cent. discount, which went to pay for a reading room and other expenses. The society did not carry a stock of goods: it merely held the $50 or $100 invested as shares. Being asked by a member of the Commission if the wholesale house liked it to be known that it thus dealt with the society, Mr. Peddle replied: "It is not generally known, but the cash fetches them all the time." He then stated that there was no difficulty in finding wholesale houses to deal with, adding: "We have only to ask for their lists, and we obtain them. One house will compete with another for the fall trade." Henry Nichols, G.T.R. carworks, London, told how a committee had been formed in the workshop to arrange for the purchase of coal at a reduction. The coal was cheaper, but in other respects the deal was not as satisfactory, and after the first year's experience witness did not go into it again. Robert Symons, shoemaker, London, said he was a member of a co-operative society, and that the society was of considerable advantage to those who got their goods from it. A purchaser would save about 15 per cent., and when coal oil was selling for 18c. a gallon, he could get it in the co-operative store for 13c. Members of the society buying boots and shoes of him where allowed 10 per cent. off.

Cost of Living.—With some rare exceptions, the testimony of witnesses as to the cost of living in Ontario inclined to the opinion that it had increased in a considerable degree within the past five or ten years. The evidence indicated also that the cost of living was less in England than in Canada, but there is a difference of opinion as to the merits of the United States and Canada under the same head. The evidence on this subject is valuable in itself, inasmuch as it is mainly that begotten of actual experience, rather than being merely conjectural. J. F. Falconer, carpenter, Toronto, said that as a man with a large family he did not know, taking it all through with the exception of rent, that there was much difference in the cost now and fifteen years ago. He was better off now at 25 cents an hour then he was then at 20 cents per hour. A machinist, Toronto, testified that men could live cheaper in England than in Canada. He held that money goes a great deal further there than in this country, that house rents were nothing as compared with here, and that coal was very cheap there. T. Bowick, employing blacksmith, Toronto, said that during his time in Toronto the cost of living had increased a little ; rent had for one thing, and he thought provisions generally were a little bit higher. W. J. McFarlane, carriage-maker, Toronto, was satisfied the cost of living was greater now than it was some years ago. He thought it was more so in comparison with the rate of wages. The rents of the same houses had increased $4 per month during the last four years. J. Hunt, moulder, Toronto, on the strength of his knowledge, said that it cost more to live in Toronto now than it did six or seven years ago. Living had increased as to cost in house rent, dry goods and vegetables. Within that time the rents had increased some $5 per month for houses suitable for workingmen, and wages had not increased in proportion. D. Black, stove-plate moulder, Toronto, testified that the purchasing power of money was not as great now as formerly, nor were wages increased proportionately with outside expenditure. A very fair proportion would be an estimate of 25 per cent. It was very hard for a workingman to get a suitable house in Toronto, as the rents were too high for his resources ; he had to go to the outskirts of the city. T. Pickett, iron moulder, Toronto, said that taken as a whole, the increase of wages had not corresponded with the advance in the price of goods. He did not believe five per cent. of any mechanical trade could save a dollar in Toronto. J. McLaren journeyman gilder, Toronto, said a man could live at much less cost in Toronto than in Chicago, but he would not say, taking all things into consideration, that a journeyman would be better off in Toronto than he would in Chicago. John Dixon, carriage-builder, Toronto, as an employer, thought a workingman could live cheaper in Toronto than ever, as things were not so dear. Miss H. Gurnett, dressmaker, Toronto, said living was cheaper in Canada than in the United States, but a skilled hand at her business can get higher wages in the United States, and does not have to pay much more for board than she would have to pay in this country. F. McNally, wood-work machine hand, testified that provisions can be bought cheaper in Detroit than in Windsor. In the last mentioned town a small house—about two small bedrooms, one front room, a sitting room and a kitchen—rents for about $6 per month. H. Gnosill, brass finisher, Windsor, testified that wages in Canada were not quite as high as in the United States, nor were they as good as the wages paid in England. J. Davidson, agricultural wood-worker, London, believed that in regard to the cost of living in Syracuse, in the State of New York, it would not be higher, in proportion to wages, than in the city of London. He knew he would be better off in Syracuse. S. Peddle, cabinet maker, London, said that some five or six years ago, while living in New York, he found that the necessaries of life were very cheap in that city. J. Fraser, real estate agent, Petrolea, in reply to a question, said: "From my knowledge of the people here, I think the wages are fairly good, but the expenses of living are tolerably higher. I hear working people frequently complain of the high cost of living here. Rents, for instance, are pretty high, and taking the cost of living generally it is a fraction higher here than in the average Canadian town. G. J. Sturges, roller in rolling mill, Hamilton, considered that, taking everything into consideration, the cost of living in Hamilton and in western cities would be about equal, although, in fact, he could earn more wages in the former city. W. J. Vale, printer, Hamilton, was satisfied the cost of living had increased in Hamilton within the past ten years. R. Baird, carpenter, Kingston, held that as a general rule wages were higher in the United States than in Canada, while the cost of living was about equal in both countries. G. Johnston, engineer, Kingston, testified, as the result of his experience, that the cost of living has been increased with the past few years, and that the fact was due to a higher tariff. S. Angrove, pattern-maker, Kingston, was satisfied that it cost him no more to live now than it did five years before. G. Bonny, foreman blacksmith, Kingston, said that rent and groceries were cheaper in Kingston than at Battle Creek, Michigan, where he had worked; and that the cost of living was cheaper and the house accommodation better in the old country than in this country. Alfred Perry, machinist, Kingston, said the chances for a married man were about equal in the United States and Canada, but that for a single man the chances were considerably better in the former country. Dr. W. B. Nesbitt, Toronto, testified that he considered barley, Indian meal and red herrings sufficient for a laboring man to do a day's work on in Canada. He quoted certain statistical tables, and in applying them to this country, the doctor stated that the cost of a good meal for a hard working man would be about three-quarters of a cent. This would be the cost of a good palatable meal, and a man would be able to do more work on it than on meat and potatoes. W. Hutchison, (McKay & Co.) miller, Ottawa, testified that they had lower prices for flour in the last three years than he had known for the ten years previous. Wm. E. Hamilton, B.A., T.C.D., Chatham, was tolerably well acquainted with the condition of the working classes in that town. He thought that in many cases the artisan classes are fairly comfortable. When they have good health and are economical, they can save a certain amount of money. Many however, were out of work a considerable part of the year, such as bricklayers and masons, whose chances are limited by the climate, while others again, are thrown idle through having the factories shut down. J. Allenby, tailor, London, testified that the rent of a six roomed house, centrally situated in that city, would be about $10 per month; that rents had increased during the last five years, while wages generally have become lower. T. Mackay, retail grocer, Hamilton, said that taking the whole quantity of groceries an ordinary family would require, a man could supply himself now as cheaply as he could have done five years ago. J. J. Whitely, machinist, Hamilton, testified that he was only a few years out from England. In comparing the wages of his trade paid in England and in Canada generally, he was satisfied that the employés wages were higher in London than here; 36 or 38 shillings a week in England, is worth more than $12 or $14 a week here, that is by taking account of house rent, coal and provisions. J. Litton, driller, Kingston, said he was employed in the locomotive works, and his experience was that the cost of living in Kingston to-day was decidedly greater than it was five years ago. He found that meat, butter and provisions had increased in cost, while house rents had increased 20 per cent. during the past five years.

DWELLINGS OF THE WORKING CLASSES.—The evidence bearing on the size, style, sanitary conditions and surroundings of the houses usually occupied by the mechanical and laboring classes in Ontario, tendered to the Commission, was not as extensive or as definite in detail as could be desired with the view of indicating clearly what is required as remedial legislation, either of a municipal or of a parliamentary character. Still, the evidence of Messrs. Howland and Pearson, of Toronto, is suggestive enough as to the future result in that city of unrestricted license in the matter of house-building, without regard to necessary space, location, or proper sanitary conditions. While the growth of Ontario cities in the matter of population continues steady, although varying in degree, yet the evidence does not indicate any tendency in the direction of increase in the building of tenement houses on the "flats" system. On the whole, the evidence leads to the conclusion that the dwellings of the working people are from fair to middling in the principal centres of population in Ontario, with considerable room for improvement. J. Falconer, carpenter, Toronto, had no hesitation in asserting that the dwellings of those who are sober and careful men, are much superior and better furnished at the present period than was the case twelve or fifteen years ago. He was satisfied also that the mechanical classes live in better style to-day than they did at the time referred to. A machinist, Toronto, said the condition of tenement houses in Toronto was better than that of a like class of buildings in the old country. There was more isolation here, as well as more room, but of course more had to be paid for it. Dr. Wm. Oldright, Toronto, testified with respect to the condition of workingmen's dwellings. He found that the bedrooms were disproportionately small. J. H. Lumsden, printer, Toronto, said it had not come to his knowledge that many printers had become possessors of their own houses, but on the other hand he should certainly say that employers of labor had got rich. When he saw employers living in better houses he had a right to conclude that they were prospering. J. Hunt, moulder, Toronto, testified that the condition of tenement houses in that city was very poor, and that as a rule workingmen lived in them only because they could not get better. He said it was a difficult thing to get good houses within reasonable distanee of work at fair rent—men have to go long distances for them. T. Pickett, iron moulder, Toronto, testified that he had a family of six or seven, and that although he had not lost one day a month in years through neglect on his part, it would take him a thousand years to build a house in Toronto, if he continued to live in a respectable way, such as a workingman is expected to live and bring up his family. He thought double tenements instead of single houses would be a benefit to workingmen, and was of opinion that one of the great causes of high rent in Toronto was over-speculation in land. He was satisfied that rentals have increased in greater proportion than have wages. W. H. Howland, mayor, Toronto, testified that he had a pretty general knowledge of the houses of the poorer people of Toronto, through visiting them. He said there was very little system about these houses. Continuing, and in referring to size of houses and the question of a sufficiency of air space, Mr. Howland said: "In St. John's ward you will find houses built in front and then others are built in at the back end, the result being that there is no space or air room, and they are very unwholesome. Many of these rear buildings are taken advantage of for bad purposes, especially when they fall into the hands of landlords, as they are very profitable. They are now falling into the hands of people who own a number of houses, and the system is wrong in every way. It is also wrong to put two or three families into these small houses of two or three stories. I think the whole question of artisan's dwellings should be as much under Government inspection as factories, and I think there should be prompter methods of dealing with cases where people are being crowded together to their injury, and in many cases their positive destruction. It has taken us nearly a year to get rid of one lodging house of bad reputation there, and in which hundreds of children had been ruined. I have heard of many cases where decent people were in two small rooms—decent people, but they were being injured physically, by being in close quarters. I do not say that we should have buildings which would increase the rents too much, as they are now too large under present wages, but I think the inspection should be such that all really dangerous and unsuitable places, the number of houses on one lot and all that sort of thing, should be covered by Government supervision. You can never depend on city machinery for that sort of thing." C. Pearson, real estate agent, Toronto, testified that he had a large knowledge of the class of houses occupied by workingmen, and that they pay more rent now than ten years ago —thirty to forty per cent. more in the centres, although the class of houses is pretty much the same now as then. He said workingmen could rent cheaper houses on the outskirts of the city, but this would necessitate the expenditure of car fare. The working people as a class like to cluster in the centre of the city, so as to be as near as possible to their work; they put up with inconvenience rather than go farther away. He sold many houses to working people, part of the purchase money is paid in cash, and the balance in quarterly payments. It is their first thought to get the house paid for. These people, Mr. Pearson said, keep up their payments pretty regularly. Interest is paid on the whole amount generally, but the Government now has passed an Act under which the rate of interest must be on the sum remaining due. As to the sanitary condition of houses, the witness said they were pretty well drained, and being under the supervision of the city council, a policeman goes around to inspect them. If not carefully looked after the condition of the older and poorer houses would be bad ; they have the old drainage and in a great many cases the old fashioned privy. He held that on the score of health it pays a man to put in a water-closet. J. Waddell, foreman in a house-furnishing wood-work factory, St. Thomas, said that as a rule, workmen in that city were in fair living circumstances as mechanics, but they had to be pretty saving. Some of them owned comfortable houses. He thought an eight-roomed house could be rented at from $8 to $10 per month on an average. S. Shoefelt, cotton-carder, Cornwall, thought the majority of working people in that town lived in rented tenement houses. He lived in one himself ; it contained five rooms, and the rent was $7 per month. The company rented houses to work people ; he was himself one of their tenants. None of the company's houses contained less than four rooms. He thought it likely that if a person is discharged from the mill that person would have to leave the company's house, but it was not compulsory on the part of employés to rent these houses. P. Dane, weaver, Cornwall, said that the houses generally occupied in that town by mechanics, were in good condition, they were healthy if kept clean. W. Stuart, jr., contractor, Ottawa, was pretty familiar with the condition of the working classes in Ottawa. He said : "I should say the condition of the working classes in Ottawa at the present time is very fair ; most mechanics, probably two-thirds, own their houses and the property they live on. Of the laboring class a few own their own houses, but the mechanics as a rule have all pretty fair homes, and I don't hear any complaints." F. J. Farrell, printer, Ottawa, was acquainted with the class of houses that working people live in in that city. He said : "As far as I am acquainted with them, they are in a healthy condition. This is a small city, it is different from large cities ; the houses here are not the same as in larger cities. The tenant has the complete control of his house. The rents were raised with the prosperity of the times and are high ; and there are houses in some parts of the town where several families congregate together, so as to lessen the rent. The rent of a six-roomed house within ten or fifteen minutes walk of the post office would average about $9 per month. Some houses have been constructed in a hasty manner and are somewhat damp ; others have been re-modelled, but have not been improved in the process, so far as health is concerned. They were built at a time when Ottawa was only a village, and are not suitable for a growing city." D. Tassé, printer, Ottawa, said that though not a landlord, he found the houses of the working people of the city of Ottawa pretty fair. He had lived in Montreal, and as a consequence, knowing the conditions in both cities, he would prefer living in Ottawa, as far as the houses were concerned. A. Short, printer, Ottawa, said that so far as workingmen's houses were concerned in that city, he did not think he had seen worse. He had lived in Kingston, Toronto, Port Hope and Napanee, and in other places, and he never met with worse ; that is, the houses rented by the working classes. He really thought it would be beneficial to have some of the Irish landlords imported to Canada.

EMPLOYER'S LIABILITY.—The evidence on this subject, although not voluminous, indicates clearly two things : (1) That the Ontario "Compensation to Workmen for Injuries Act," (which has been further amended since this evidence was taken) has been of considerable advantage to wage-earners, and (2) that such an act should prevail in each of the provinces, or else that a Dominion Employer's Liability Act should be enacted by the Dominion Parliament, for the purpose of covering and overcoming the condition of things outlined in the evidence of Mr. Stephenson, iron-moulder, of Hamilton. F. Nichols, secretary of the Canadian Manufacturers' Association, Toronto, testified that according to the letter of the Ontario Employers' Liability Act, if a man is injured by machinery or anything of that sort, his remedy lies at his hand. Although the act had only been in force a short time, yet a number of cases had been brought into court under its provisions. He was of opinion that employers thought the act a step in the direction of affording increased protection to employés, for they were insuring their men at their own expense in many cases. Employés in every province may bring actions for damages under the common law, providing employer's negligence can be proved, but in cases of contributory negligence, action may be taken under the provisions of the Ontario act. In so far as railways were affected by this act, if his memory served him rightly, the Grand Trunk was exempted from its operations for one year, because the company had at that time, and at the time of his giving evidence, a system of benefit insurance among their own employés. At the last session of the legislature they applied for a further extension of that period of exemption, and they are enjoying it yet. T. Webb, laborer, Toronto, said he was in England when the Liability act was brought into force there, and it made the employers more careful as respected the construction of scaffolds, it provided for four feet of boards on the outside, and besides that, there must be left two boards on every scaffold, with the view of breaking the fall, should a man fall. In England the scaffolds are put up by competent men, but here the builders do not usually have the requisite plant, and do not put up scaffolds as they should be put up, for want of the proper material. He would like a Canadian Liability Act on the lines of that of England. A conductor on the Grand Trunk railway testified that he believed if the Employer's Liability Act had gone into force without a proviso exempting the Grand Trunk from its provisions, a claim would be good in the event of a brakeman losing his life by falling off, or being injured through falling between or off the cars, and cases of that kind. But the Ontario Government saw fit to exempt the Grand Trunk, owing to the fact of that road already having an insurance and provident society in existence, which the company claimed was sufficient to meet all cases of disability or death of the men in the employ of that corporation, although the men themselves pay the fees which support the society. A select committee of the Legislature considered the question last session, and debated whether the Grand Trunk should be permanently exempted or not. Since then, each employé being a member of the insurance and provident society, has had sent him a series of questions by the committeee of the Legislature, whether he would approve of the exemption under the act, of the company. Public notices are posted wherever employés are likely to receive those questions from the Legislature, containing Mr. Hickson's opinion that in case the employés decided to answer those questions against the views of the Grand Trunk, (that was the substances of these notices) he believed, as far as he knew, that the directors would consider it to be against their interests to continue the provident society, thus making a direct threat to the employés that if they signed those questions asked by the Government, in a manner opposed to the Grand Trunk, the men must abide by their actions, and the provident society may be discontinued. In that case the men who belonged to the society for a large number of years will have paid in their money for nothing—that is to the insurance fund at least—because when they paid in they looked for some benefit, and if the society were dropped their money would go for nothing. The employés of the Grand Trunk are compelled to sign papers, absolving that company from all responsibility in case of accident. He believed he knew men who would refrain from signing those Government questions through fear of the company. He believed also that the employés would prefer taking the act pure and simple, rather than that the Grand Trunk should be exempted because of its insurance and provident society, in which the men are not sufficiently protected, besides being compelled to join it, and so much a month being kept out of their wages towards its maintenance. A conductor on the Canadian division of the Michigan Central railway, testified that in as far as he knew if a man in the employ of that road meets with an accident he must grin and bear it, as that company gives no indemnity in such instances. He had never heard of a man receiving indemnity from that company. J. B. Morford, St. Thomas, division superintendent of the Michigan Central railway, in reply to a question as to employés being required to sign a certain document, said : "We require our men going on duty on freight trains to sign an agreement that the company will not be held responsible or liable in case of accident to their person while on duty in regard to coupling cars. We tender to every man who is employed on a train to couple, a safe made on purpose to reach in and take hold of the coupling, and raise it up and enter it into the next drawhead, so that the man himself will not have to go in between, and in that case to compel him to sign an agreement that he will not hold the company liable in case he is hurt in such-and-such duties" A brakeman, St. Thomas, said he was employed as a brakeman on the Michigan Central. He worked on the way freight class of trains, and when he was engaged he had to sign a document protecting the company against actions arising out of accidents. There was no provident system on the road, similar to that of the Grand Trunk, nor was there any insurance system prevailing. They had no protection from accident at the hands of that railway company. He was not aware of the company ever furnishing medical attendance to men who were injured, and neither had he heard that the company ever paid the expenses of a man who was laid up. A. Short, bricklayer, London, stated that since the Ontario Employer's Liability Act came into operation, both employers and employès have exercised more care in the erection of scaffolding. In his trade as a rule the scaffolding is built by a carpenter, and if insecure they come on the carpenter or builder for damages. But as far as the act itself was concerned he did not think the workingmen, from what he could make out of it—although he had not seen it lately—would get any benefit from it. J. Stephenson, moulder, Hamilton, speaking on behalf of the Iron-moulders Union of that city, said: "We approve of the Ontario act, and ask for a Dominion act. If such an act cannot be applied to all the provinces it is not fair. For instance, a manufacturer in Ontario, is brought under the Employers' Liability Act, whereas a manufacturer in Quebec, who is turning out the same work, is not. The Ontario manufacturer is thus at a disadvantage. Either the Quebec Legislature should pass a similar act to the Ontario act, or the act should be passed by the Dominion Parliament, controlling the matter. We think it is unjust that the Ontario manufacturer should be placed under a special act, while a manufacturer in Quebec or any of the other provinces goes free. S. Greening, (B. Greening & Co.) Hamilton, testified that his firm manufactured general permeated metals, and held accident policies for their men; these are for providing manufacturers' indemnity against claims for accident, or in other words, transferring the firm's liability in such cases to the insurance company.

Factory Laws and Inspection.—The question of factory laws and their enforcement cropped up frequently during the examination of witnesses. Employers, workmen, and an Ontario factory inspector were among those questioned. F. Nichols, secretary of the Manufacturers' Association, stated that the manufacturers had not shown any opposition to the Factory Act as a whole; and in this connection Factory Inspector Brown said that he personally knew of but one employer who had complained about the Act. That person did not think the government should interfere at all, but he had one hand nine years of age working for him. A. M. Wickens, stationary engineer, Toronto, said that one of the weak points of the Factories Act was that there were no inspection laws for stationary engines. Belts and other parts of the machinery could be inspected, but there was no compulsory inspection of boilers or engines, and the failure to inspect boilers led to accidents. A. W. Wright, journalist, Toronto, said that there was a prevailing desire on the part of labor organisations that there should be a general Factories Act. The Labor Congress meeting in Hamilton had passed a resolution in that direction unanimously. He thought, however, that if all the local governments passed an act containing the same provisions it would meet the requirements of the working classes. W C. Teague, printer, Ottawa, thought that a uniform Factory Act throughout the Dominion under the auspices of the Dominion Government would be much better than the various provincial acts. Inspector Brown, however, did not believe that there was a general desire on the part of work people for a Dominion Factories Act. Several witnesses complained that the inspectors did not talk to the employés during their inspection, but passed through the establishment in company with the owner or foreman. A London cabinetmaker, for example, stated that when the inspector went through the shop he never spoke to anyone, but simply walked through. Witness at the time did not even know that it was the factory inspector. That official was not in the whole building five minutes, and never looked at the machinery or at the closets. On this point of interviewing the workers, Inspector Brown said that he found it very difficult to get any information from the men even where there was no one present, and latterly he had taken no notice of them. In several cases, however, complaints had been sent to him by workmen in reference to matters. A Kingston cotton mill overseer said that the inspector had spoken to a number of persons while passing through the mill, and another witness held that it was a necessity that some one should go through the mill with the inspector. Some witnesses asserted that the inspectors were too hasty in their inspection, and that it was impossible for them to properly examine the machines or premises in the limited time spent in the inspection. On the other hand careful and thorough inspection was testified to by others, among them Joseph Firstbrook, box manufacturer, Toronto, who stated that three inspectors had visited his factory, and they had made so minute an examination that they had noticed a belt-hole in an out of the way place, and had given orders that it be boarded up, and the inspectors had also made them cover up another hole with a trap door. A number of witnesses said that none of the inspectors had visited their factories, nor had a copy of the Factories Act been sent for posting up. A St. Catharines witness, however, showed that there had not been time to get the act in good working order. Inspector Brown said that preliminary inspection of the factories of the province had been completed. His instructions were to visit the larger places and see how far they were complying with the requirements of the act. The inspectors took note of time worked by females and children, and also with reference to closet accommodation, fire escapes, fencing of belts and gearing, and hoists and elevators. For the first visit all the manufacturers were notified, but the inspectors had a right to go to any factory when they liked. Only in one case had he heard of any employer sending boys or girls home when the inspector was coming. In that instance the firm had two boys under packing cases while the inspector was going up stairs, and they sent them down by the hoist. The Factories Act could not be enforced where the number employed was under twenty. The inspectors were given to understand upon their appointment that the law must be enforced, and he had full power to enforce it, but he would not care to take proceedings against any violator in the first instance without referring the case to the government. Witness also stated that in cases where a room had been specially provided for as an eating room, many of the girls preferred to eat in their work room, as they seemed to think there was some sort of caste in the matter and would not make use of the other room. He had seen some places, notably moulding shops, that he did not consider comfortable. He had not found any "sweat shops," and as they did not come under the act he would be powerless in the matter. Such establishments had not the required number of hands. One important point brought out was the fact that already an improvement was observable in the matter of employment of children of tender years. Several factories were forced to discharge boys and girls too young for work, and some voluntarily sent away children upon reading over the act. It was acknowledged, however, that in some special cases children under age were permitted to remain at work. S. Carsley, dry goods merchant, contributed some interesting evidence on the need of extending the provisions of the Factories Act to dry goods stores, shirt and clothing factories, etc. In many such establishments in Toronto there is but one water-closet for both sexes, and that often placed in a dark place in the cellar. Regarding the Early Closing Act, witness said that instead of the term "closing the same" the words "dismissing the hands" should be used, because sometimes the hands were kept three hours after the store was closed.

FEMALE LABOR.—The testimony brought out many interesting facts regarding female labor. The range of woman's toil is steadily extending, and establishments are employing them to-day where a few years ago the idea of their presence would be scouted as an improbable thing. As to the desirability or otherwise of this extension of woman's work it is not the province of this summary to consider. In a few of these industries only a comparatively small number of females are employed, but in the cotton and woollen mills women are found in large numbers, in many instances greatly exceeding the number of males. In the matter of remuneration but few witnesses were found who could state that men and women were paid alike for equal work. Some thought it unfair that women should be paid less than men for the same work, while others boldly asserted that the male sex deserved higher remuneration. As to the powers of endurance of the two classes, the preponderance of testimony was that women could not stand hard, constant work as men could, and that, save in exceptional cases, men engaged on piece-work headed women or girls working at the same task. Regarding the social conditions surrounding female labor, the bulk of testimony was strongly in the direction of a high state of morality. There was little, indeed, to show that immoral practices were engendered by the sexes coming together in the workshop or the factory. There was a good deal said, however, as to the injurious physical effects caused by compelling female clerks to stand hours together behind a counter. One witness declared, and the testimony in general bore him out, that female labor was hard to organise. In biscuit and confectionery establishments a large number of girls are employed packing and wrapping the various articles, and some are also employed in the bakeshop in certain cities. B. R. Nelles, of Grimsby, testified that during the latter half of the year he employs a considerable number of women and girls canning fruit. A. H. Pettit, of the same place, stated that he gave employment to females picking and packing peaches and grapes. It was also shown that women were engaged in the manufacture of ornamental mouldings in Toronto, whips and wire goods in Hamilton, besides doing what may be considered the rather masculine task of tinsmithing in the McClary works in London. Three girls, and sometimes more, are engaged in a brass foundry in Toronto making sand cores for the moulders. At the Canadian Granite works, Ottawa, several girls were at one time placed on piece-work, but their hours were so irregular that they were not kept on. Many women and girls find employment in the cigar and tobacco trade. John R. Rose, a London cigar manufacturer, said he considered it more profitable to employ female than male labor. He, stated, however, that women did not become so expert as men. Women were not blacklisted, witness added, because they did not go on strike and never got drunk. R. J. Mills, of St. Catharines, believed it was possible for a female to become as proficient in cigar-making as a man. S. Hodgins, a Stratford cigarmaker, formerly of London, stated that women who had joined the union had been discharged, and had to go to the other side to get work. S. Oberndorfer, cigar manufacturer of Kingston, said that women do not work so hard as men do, as they were not so ambitious. They could do much more work than they usually do, but there was too much nonsense among them. A. Eichorn, tobacconist, Toronto, said that he paid women the same wages as men, and that both sexes worked in the same room. The bookbinderies employ many girls. Several witnesses said that those working in the Dominion Government printing office at Ottawa, often had to work extra hours at night in the bindery. There is one calling which was not favorably commented upon before the commission. A sailor testified as to the undesirability of having female cooks on board sailing vessels. The witness bluntly stated that the captain would go below with the cook, leaving green hands on deck who would not know where they were, and the vessel would sometimes go on shore. A number of girls are employed at St. Thomas in the manufacture of featherbone, which is now coming into general use as a substitute for whalebone. Female telegraph operators were reported in Toronto. It was claimed by the witness that in this line of work women did not attain to the same degree of efficiency as men, and that they were physically incapable of doing heavy press-work. In different cities a number of girls are employed as compositors and press-feeders in printing offices. It was asserted by some witnesses that these did not do their work as well as the males, partly because they got smaller pay. Two females were reported as belonging to the Toronto typographical union. Women are preferred in the work of sorting and packaging seeds, and in several instances, one witness remarked, they are better paid than males doing the same work. In millinery and dressmaking establishments, of course, the work is almost all done by females. A Toronto employing milliner stated that there were really more girls than there was employment for. Public School Inspector Boyle, of London, put in a strong plea for the better remuneration of female teachers. He said he knew female teachers who passed more pupils at every examination than did male teachers who were getting twice their salaries, and added that it was not his experience that in the maintenance of order the female teacher was inferior to the male. Many female teachers were underpaid. Inspector Hughes, of Toronto, said that the masters were generally paid more because they were the principals of the schools and had to exercise general management and supervision. A number of girls are employed in Toronto in the manufacture of paper boxes. It was remarked by the witness giving testimony regarding this industry that girls were harder to get in the summer than in the winter. In paper box making there was some work at which the girls had to be on their feet, and witness added that some of the girls preferred to stand. Boot and shoe factories employ a host of girls and women. One witness stated that skilled female operators in kid work were not scarce in Toronto. The tailoring trade provides work for many women, especially in the lines of pant and vest making. Some witnesses declared that women could not make good coats or vests. A London witness complained that there were some Italians who "take work home and run what are known as sweat-shops, and have a few slaves under them in the shape of women." He also added that women in Hamilton were paid only 60c. a dozen for sewing overalls. A foreman tailor of Hamilton said that women were paid at the same rate as men. A great deal of evidence was taken regarding the condition of shop-girls. Several witnesses pointed out that many of these girls were kept on their feet from morning till night, and in some instances there was no necessity for it. Dr. Oldwright, of Toronto, testified that it was harder on them to stand behind the counter than to walk about where the position could be changed. W. H. Howland, Mayor of Toronto, stated that it was within his knowledge that shop-girls had dropped behind the counter from weariness. R. Irving Walker, merchant, Toronto, said that there were more females employed now than formerly. Up to a certain extent women were more valuable than men as clerks, but when they got valuable they generally got married. In his store girls might sit during the time there were no customers there. Charles Bryson, merchant, Ottawa, said that he believed that a girl who was a saleswoman had to dress better and was under more expense in living than one working in a factory. T. Eaton, merchant, Toronto, said that in his store some young women were obliged to stand on their feet the whole time they were engaged there, but there were a great many girls in office and workshop who sat all day. For handling certain classes of goods he thought the services of women were equally as valuable as those of men, and they were paid equal salaries as near as could be arranged. R. Wilkins, Toronto, asserted that employers could get two or three girls to work for the price of one man, and instanced a case where a father was discharged because of the dulness of trade while two of his daughters were retained. Complaints were made by some witnesses regarding the system of fining in vogue in some establishments where female labor was largely employed, and it was also shown that in certain shops and factories females had not the desirable privacy in the accommodation for water-closets, etc. Factory Inspector Brown said that in some woollen mills he found that women were being employed longer than the law permitted, but the employers had promised to reduce the time to sixty hours. In the majority of factories women did not work so long as men. Witness also stated that in several places men and women were working in the same room, but that that was not in contravention of the Factories' Act.

THE FINING SYSTEM.—Except as indicated in the evidence given below, the testimony tendered the Commission does not justify the assumption that the unjust system of imposing fines on employés prevails to any very great extent, either in the manufacturing or in the mercantile pursuits of Ontario. T. Eaton, dry goods merchant Toronto, testified that his hands were allowed one hour for dinner, and that if they were late in returning—being allowed five minutes grace—they were fined ten cents; this fine would be imposed for being late five minutes, unless a reasonable excuse were offered. He said the fines were deducted from the wages at the end of the week. C. Ross, merchant, Ottawa, had a system of fining salesmen, but it was never put in force. R. Kerr, foundryman, etc., Walkerville, did not fine any of his employés, but if a man is half an hour late in the morning that man is docked half an hour. J. Stephenson, iron-moulder, Hamilton, had seen employés in his business fined so much for breaking an article, and if they did not like it they could quit, because they could have nothing to say as to a reduction of the fine imposed. He added, however, that this system did not prevail now. He said that fining was practiced in dry goods stores in that city. S. Gilbert, hosiery manufacturer, Dundas, said that time hands knew that if so long away they would be fined, and the fine would be in proportion to what they would earn per hour. ———, Ottawa, employed as folder in the Parliamentary printing office, testified that if she came in late a quarter of an hour the foreman would cut her short one hour. She knew the foreman to fine a girl for fixing her hair, or something of that kind. Miss ———, paper-folder, Ottawa, worked in the Parliamentary printing office and corroborated the testimony of the previous witness, and added that she herself had been docked in her pay by the foreman just because she happened to displease him in something. She had seen other girls docked an hour because of being a few minutes late. F. Rogers, foreman in the bindery department of the Parliamentary printing office, Ottawa, testified, in rebuttal of the statements that fines were imposed for being late of a morning, that no system of fines existed in the office, but that where a girl made a practice of coming in late he would certainly take an hour off her, as something of this kind had to be done to secure order in establishments of the kind. He desired to say further that in addition to being allowed ten minutes in the morning, if the girls worked ten or fifteen minutes after six in the evening they were credited with an hour for it. A conductor on the Grand Trunk railway stated that in the event of a mistake on the part of a freight conductor the infliction and determination of a penalty therefor lay altogether in the hands of the superintendent, who may lay a man off for a month, may fine a man, or may inflict what other penalty he sees fit; he may discharge even. Fines were imposed quite frequently, and for very trivial offences in many instances. He had known an engine driver to be fined $60. Offences and their penalties were not classified. In case of a simple offence—such a little thing as carrying a car without a bill, which would detain a car until a bill caught up to it—it would be heard by the assistant superintendent, who would decide the matter by fining the offender a day's pay or by administering a caution. If anything occurs of a more serious nature it goes to the general superintendent, and he decides the case and determines the punishment, the amount being at his own option. If the case is of considerable importance—if there has been a wreck or anything of that kind—it first comes before the divisional superintendent, who takes all the evidence in the case, and it is for warded by him to a board of investigation, which sits in Montreal, and is composed of the heads of the department. This board meets once a month and adjudicates upon such cases and decides what punishment to be inflicted with the design of bringing a man into line again. Mr. Limebeck, cotton spinner, Hamilton, testified that he was employed in the Ontario cotton mill in that city. As to the fining of employés for being late in the morning or at noon, he never knew of a case in that mill, but sometimes they were fined for work which, in the manager's estimation, had been spoiled. He said he could not estimate what such fines would amount to in a month. J. Bell, secretary-treasurer Ontario cotton mill, Hamilton, said that no fines were imposed on employés for being late in the morning or at noon, but fines were imposed for bad work. Employés were fined if their work was very bad, a moderate fine, and paid nothing for doing it. They are not allowed to keep the work, merely that their labor is lost upon it. W. Willson, manager of the Kingston cotton company, Kingston, stated that no fines were imposed upon nor were the doors closed against employés of that company because of being late occasionally in the morning. Those who would not cure themselves of coming late would be discharged rather than fined. A. T. Knight, manager of the mill of the Canada cotton manufacturing company, Cornwall, testified that he had just come to the establishment and that the imposition of fines upon the employès went into effect before he came there. There was no rule that the wages of employés were to be docked because of their coming in late, but of course if any employé was habitually late some penalty would be imposed as a punishment—something of that kind, at the discretion of the overseer. A. G. Watson, secretary of the Canada cotton manufacturing company, Cornwall, said that very few fines were imposed by that company, but when imposed the cause therefor lay principally in bad weaving. Certain amounts of fine were stated for certain imperfections; there was a table to govern the imposition of fines, and if a weaver felt aggrieved in such case he has the right of appeal to the superintendent. S. Shoefelt, carder Canada cotton mill, Cornwall, testified that he had charge of a room. He said that people were not fined for going in earlier than the rules state. No employés in his room were fined except for breaking glass; that was the only fine imposed, and even then if the case is exceptional it is let pass. A. Gault, secretary of the Stormont cotton mills company, Cornwall, testified that the amount of fines imposed on employés during the past year was $545.44, and that no fines were imposed except for bad work—spoiled work. E. King, boss carder, Stormont cotton mills, Cornwall, during his examination stated that fines were imposed on children in these mills. Fines were imposed in his room for bad work, and he himself was the judge of this bad work. He said also, that fines were imposed both for negligence and for breakages. A mill operative, Cornwall, was employed in the lap-room of the Stormont cotton mill, and testified that at times the treatment of the employés by the overseers was bad. He said he looked upon the imposition of fines for spitting on the floors, and incidents of that kind, as bad treatment; more especially as the printed rules did not provide that spitting on the floor would constitute an offence. A steam-fitter, Toronto, said that at a meeting of the bosses' union a law was passed imposing some fines, but he had never heard that this law was enforced. J. P. Watson, secretary and manager of the Cornwall manufacturing company, Cornwall, testified that fines were imposed in the weaving-room for incompetent work; certain stated amounts for certain imperfections. If a weaver is fined and feels himself aggrieved he has a right of appeal to the superintendent, but a fine cannot be unjustly imposed because there is a table to govern the imposition of fines. T. Day, superintendent of the Cornwall manufacturing company's mill, Cornwall, said that employés of the mill were sometimes fined for other causes than bad work—for destroying property, neglect of work, going out without due notice, and being absent, but they were not fined for being late in the morning; they lost the time only. A. French, woollen manufacturer, Ottawa, said he had to fine the weavers sometimes for bad cloth; there was a notice up to that effect

HOURS OF LABOR.—In no phase of the investigation by the Commission were there more answers of a direct character evoked than were given as to the hours constituting a day's work in the several callings represented by witnesses in the places where the Commission hold sessions. That the length of the work-day, not only in every city and town but in every trade or calling as well, had been affected in the interest and to the benefit of the employé where organizations of workers had a footing is clearly demonstrated in evidence, although not, perhaps, under the head of "hours of labor." But even under the last mentioned heading it will be observable that, taking any specific calling, in places where organizations prevail there will be found the shortest hours of work. With the design of conveying a fair estimate of the difference in the working hours of the same callings in different places throughout Ontario, as well as to illustrate some phases of the question which were not previously known to the general public, the evidence given before the Commission is drawn upon to a much larger extent than has been deemed necessary in other instances. J. Davidson, agricultural wood-worker, London, testified that the men where he was employed worked ten hours per day for five days and only nine hours on Saturdays. W. Elliott (Elliott & Sons, iron founders), London, said their employés worked ten hours on five days and five hours on Saturday of each week. J D. Nasmith, employing baker, Toronto, stated that journeymen bakers in that city worked nine hours per day on an average. W. Carlyle, employing baker, said that although the wages were practically the same now as they were five years ago, yet the hours had been reduced from twelve to nine per working day. A. W. Porter (McCormick Manufacturing Co.), London, testified that the firm manufactured biscuits, crackers, confectionery, etc. He said there was a peculiar arrangement prevailing in their establishment according to which all the hands take only half an hour for dinner, and by that means they make three hours, while the company concedes two hours, in that way enabling the employés to cease work at half-past twelve o'clock every Saturday. A. Bennett, journeyman baker, Kingston, said that bakers in that city could hardly measure the working hours; the time varied from eight to fourteen hours per day, according to the condition of the fermentation. He said that they began work one morning in the week at three o'clock so as to make up for the Saturday afternoon which had been accorded them by the employers. W. Gibson, biscuit manufacturer, Ottawa, said his employés worked ten hours per day or sixty hours per week. R. E. Jamieson, employing baker, Ottawa, testified that his men worked from five o'clock in the morning until half-past three in the afternoon of each day. T. Beckett, journeyman carriage builder, Toronto, said that men engaged in the production of a carriage in Toronto—the wood-worker, the blacksmith, the painter, and the trimmer—are supposed to work ten hours per day. G. Bonny, foreman blacksmith in the locomotive works, Kingston, said that blacksmiths in the employ of the company work fifty-nine hours per week. J. T. Harvey, blacksmith, Ottawa, said that men in his calling in Ottawa worked fifty-nine hours per week. T. Stoddard, pattern-maker and machinist, Ottawa, testified that there were machinists, moulders, blacksmiths and laborers employed in the shop he worked in. He said the number of hours per day varied according to the requirements, usually ten hours per day. When the men work overtime they receive one-and-a-half hour's pay for each hour worked. R. B. McPhadden, boiler-maker, Kingston, said that boiler-makers in that city work fifty-nine hours per week. W. J. Campbell, boiler-maker, Ottawa, said his employés worked ten hours per day. Miss ———. folder in a printing office, Ottawa, testified that nine hours constituted a day's work where she was working, and when she worked overtime she received extra pay for it. Miss ———, folder and stitcher in a printing office, Ottawa, testified that she was a forewoman and that the females under her charge worked from seven in the morning until six o'clock in the evening, although they have to work overtime occasionally and for which they receive extra pay. W. Thurston, boot and shoe upper manufacturer, Toronto, said the working hours of his employés were nine and a half per day for men, and on Saturdays in winter from 7.30 to 4, and in summer from 7 a.m. to 12; for women, 8 to 6, and from 8 to 4 on Saturdays in winter, and 8 to 12 in the summer months. J. Volume, journeymen shoemaker, Kingston, testified that in his trade in Kingston ten hours constituted a day's work. J. H. Lumsden, printer, Toronto, testified as to his experience in a paper-box factory and in doing so said that the young women employed therein worked nine hours a day for five days and had Saturday afternoons off. Referring to printers he said that in offices where union men work the hours were fifty-four a week, as to the hours worked in non-union offices he had no personal knowledge. H. T. Wood, manager of the box shook factory, Ottawa, said that the men and boys employed worked eleven hours per day—starting at six o'clock in the morning. H. Rymill, bricklayer, London, testified that the working hours in that city in the bricklaying trade were nine hours on five days of the week and eight hours on the sixth day. C. Rogers, cabinet manufacturer, Toronto, said that journeymen and others employed in that trade worked ten hours a day twenty-five years ago and they still worked the same hours. L. Gratton, cabinetmaker and joiner, Ottawa, testified that the working hours in his factory were ten hours a day for five days and nine hours on Saturday. H. Neilson (Coltart & Neilson, furniture manufacturers), Chatham, said the men in the employ of the company worked fifty-nine and a half hours per week. J. Wolfe, of the London furniture company testified that their employés worked ten hours generally per day—fifty-nine hours and a half, and half an hour off on Saturday. J. Callow, carpenter, Toronto, said the rule of the trade in Toronto was nine hours a day and five on Saturday, but the men are compelled to break that rule or be discharged; he was discharged himself on account of refusing to work on Saturday afternoon on a job. J. S. Ballantyne, carpenter, Toronto, was of opinion that the nine-hour system prevailed generally in his trade throughout Ontario, and he found that where mechanics were working four or five hours less per week they also received higher wages. A. Henderson, carpenter, Detroit, testified that nine hours a day for carpenters was the rule in that city. H. Foster, carpenter, Windsor, said the working hours of carpenters in Windsor were nine hours a day. J. M. Green, manufacturer, contractor and builder, St. Thomas, said that his employès worked ten hours a day during most of the summer, but for some weeks past they worked only eight hours a day, with the view of keeping the same number of hands on. He paid his men by the hour. A. Smith, carpenter, Petrolia, testified that ten hours a day for six days in the week at carpentering was the rule in Petrolia. E. H. Hancock, carpenter, Hamilton, said that ten hours constituted a day's work at his trade in Hamilton, but he believed the organization in his trade was laboring hard to reduce these hours. W. Stuart, jr., contractor, Ottawa, employed stonecutters, bricklayers, masons, carpenters and laborers.

He said that ten hours was the regular time work for all, other than masons, bricklayers, stonecutters and carpenters, all of whom quit at five o'clock on Saturdays T. Green, carpenter and builder, London, testified that he was an employer of labor and that the hours of labor were nine hours a day, except on Saturday when the men quit at five o'clock. Carpenters only worked eight hours a day in the winter time. W. J. McFarlane, carriage-maker, Toronto, said the working hours at his trade in that city varied from fifty-five per week in some shops to sixty in others. Where he himself worked the men quit work at twelve o'clock on Saturdays. W. H. Anderson, manufacturer of carriage wood-work, St. Thomas, testified that those engaged in his employment worked ten hours a day and six days in the week. J. S. Anthes, manufacturer of baby carriages, Berlin, said that all his hands worked sixty hours per week. C. Mackenzie, cartage agent of the Grand Trunk railway, Toronto, said they did not do all the cartage of the company; another firm did part of it. The firm referred to had some ninety men employed in Toronto. The men would average ten hours work per day, but in the very busy time they have to work longer hours. J. A. Rose, cigar manufacturer, London, said that the working time in his factory was nine and a half hours per day. R. J. Mills, cigarmaker, St. Catharines, testified that formerly he worked ten hours per day, now he only worked eight hours a day and did nearly as much work as he did formerly in ten hours. J. Bell, secretary-treasurer Ontario cotton mill, Hamilton, in speaking for that establishment said the hours of labor in the mill were sixty hours a week—eleven hours a day for five days and five hours on Saturdays. W. Birkett, secretary-treasurer Dundas cotton mills company, Hamilton, said that their employés worked sixty hours a week. They shortened the hours on Saturday and differed with the other mills in that they commenced work at a quarter to seven in the morning. A. G. Watson, secretary Canada cotton manufacturing company, Cornwall, testified that the employés of that company are required to work sixty and a half hours a week—from 6.30 in the morning till 12, and from 1 till 6.30. An hour was allowed for dinner, except on Saturday, when the operatives leave the factory at 12 o'clock noon. J. Daley, foreman dyer, Stormont cotton mill, Cornwall, considered sixty odd hours rather a long week's work, and believed it possible to do the same work in a less number of hours. A cotton spinner, Cornwall, testified to working eleven hours per day. A. Gault, secretary of the Stormont cotton mills company, Cornwall, testified that the mills start at half-past six o'clock in the morning and knock off at half-past six in the evening; an hour is allowed for dinner, and on Saturdays the working hours are from half-past six until twelve noon. W. Willson, manager of the Kingston cotton company, Kingston, said that the girls in the company's mill on day work are required to put in sixty hours per week. He held that the cotton mills of Ontario could not afford to run on eight hours a day. J. Wilkins, grocer, Kingston gave testimony as a Knight of Labor. He had heard it stated that the employés of the knitting mills only worked sixty hours per week, but this was not true. As he lived near the knitting mill he knew, as did others who were then present, what time the operatives went to work. They work eleven hours a day, and on Saturday from half-past six o'clock in the morning till one—making sixty-one and a half hours per week, while they paid at the rate of sixty hours' work only. J. Walker, secretary-treasurer Crompton corset company, Toronto, testified that the working hours of the employés were, from 1st October to 1st March, 8 o'clock to 12 and from 1 to 6, and on Saturdays from 8 to 12; from 1st March to 1st October the hours are from 7.30 in the morning, instead of 8 o'clock. The average is forty-nine hours per week. Miss H. Gurnett, dressmaker, Toronto, was in business for herself. After quoting the rates of wages paid dressmakers generally in Toronto, she said that in earning the wages she mentioned women had to work ten hours per day, with an hour allowed for dinner. R. Meek, journalist, Kingston, testified as to the working hours of male and female clerks in dry goods stores in that city. According to his estimate these hours were from 8 in the morning up to 6 o'clock in the evening, except on Saturdays when the hours ran to ten or eleven, or whatever time the business closed. C. Ross, merchant, Ottawa, said his female clerks worked from half-past eight in the morning until six at night. He added that some of them worked until nine o'clock at night, but for this they were allowed one and a half hours in the day time. C. Bryson, dry goods merchant, Ottawa, testified that half the clerks in his employ came back again until nine o'clock every evening, and that for this they received no extra pay. The girls that remain until nine o'clock at night come on at eleven o'clock in the morning and are allowed two hours for dinner and supper. They work until nine in turn, alternate weeks. R. Chisnell (Hart Emery-Wheel company), Hamilton, testified that the employés of that establishment worked sixty hours per week. M. Campbell, manufacturer of fanning mills, Chatham, said his employés worked fifty-nine hours per week—nine hours on Saturdays. D. Wilson, farmer, testified that he lived in the neighborhood of Chatham. He would call a good agricultural laborer one who was willing to get up at five o'clock in the morning, attend to the team and see to everything till eight o'clock at night. R. Brock, farmer, township of Enniskillen, Lambton, said he did not work less than ten hours a day on his farm. He had often worked eighteen hours a day in the harvest time but he did not work such long hours in the winter season. D. Rogers, farmer, Kingston, said the farmer's busy season lasted about four months in the year and that the average working hours daily during seven months was from twelve to fourteen hours. G. R. Holder, St. Thomas, testified that he was proprietor of a featherbone factory, and that his employés worked ten hours a day and six days a week. J. Hunt, moulder, Toronto, said that as a rule ten hours constituted the day's work of a moulder. J. Pierce, moulder, Toronto, thought the eight-hour movement should be carried in order to secure the half-holiday, which would be a benefit to all workingmen. He held that if the eight-hour system prevailed in his trade it would increase the employés one in every ten, and this would to some extent reduce the surplus labor on the market, which, in his trade was one-third more men than the demand called for. R. Kerr, foundryman, Walkerville, said the working day in his foundry consisted of ten hours. J. McKenna, moulder, London, said that in McClary's shop where he was employed they averaged about eleven hours per day the previous summer as a day's work. T. Pumfrey, moulder, Hamilton, said he was in the employ of the Grand Trunk railway. The men in the shop began work at 7 o'clock in the morning and quit at 5:30 p.m. and at 12 o'clock on Saturday, making the hours from fifty to fifty-four per week. J. Milne (Burrows, Stewart & Milne), Hamilton, testified that the men working for the firm by the week worked ten hours a day for five days and nine hours on Saturdays. He thought they might as well work ten hours as eight or nine hours. J. McNeil, moulder, Kingston, said that machine moulders in that city worked about fifty-nine hours per week. W. Harty, managing director Canadian Locomotive and Engine company, Kingston, testified that the machinery moulders in the employ of the company generally put in fifty-four hours as a week's work. They worked ten hours every day except Saturday, when they put in nine hours. J. Peer, machinery moulder, Ottawa, said he worked by the day and put in ten hours each day. M. W. Merrall, foundryman, Ottawa, said his employés were supposed to work ten hours per day. B. R. Nelles, fruit and vegetable canner, Grimsby, employed women and girls principally. He paid them so much an hour, and they actually worked more hours in the week than would make six days, as they sometimes worked until ten o'clock at night. W. H. Williamson, gentlemen's tie manufacturer, employs girls as a rule and the working hours are from 8:30 a.m. to 5:30 p.m.; but when he was busy the hours were longer. J. Gaskin, outside manager Montreal Transportation and Forwarding company, Kingston, in his evidence said that grain shovellers had no particular working hours, as when there was a fleet of vessels in they worked till the vessels were loaded. Sometimes they worked twenty or twenty-four hours without stopping, and then do no work for the following twenty-four hours. He had known shovellers to work thirty-six hours so as to prevent boats being delayed. T. Mackay, retail grocer, Hamilton, said that clerks in that business generally work from 7:30 a. m. to 7 p. m.; in summer from 7 to 7, and down to 10 and 11 o'clock on Saturday night; they had an hour for dinner and tea out of that. S. Leonard, hosiery manufacturer, Dundas, testified that he employed a great deal of female labor. He said they commenced at a quarter before seven in the morning and discontinued at 6:30 in the evening, taking one hour for dinner. J. Hewton, manager Kingston Hosiery company, Kingston, testified that about sixty or sixty-five employés of the company were females. The working hours in the factory were sixty hours a week. W. Risdon, manager Erie iron works, St. Thomas, said their men worked sixty hours a week. H. T. Benson, laborer, Toronto, said he was a member of the Builders' Laborers' Union, and that the rules of that body name nine hours as a day's work. E. Fitzthomas, Chatham, said he was a skilled hand in the agricultural works and that he worked fifty-nine and a half hours a week—nine and a half hours on Saturday. J. Hayman, builder and contractor, London, said his men worked only nine hours a day. H. Baudin, farmer, Pittsburgh, Frontenac, said there was no limit as to the working hours of farm laborers; he himself had worked eighteen hours per day, and worked cheerfully. A lock-laborer, Ottawa, in testifying to the extremely long hours put in by the lock-laborers on the Rideau canal, said that they put in all the day time as well as all the night time. In explaining the system he put the case as follows: "I commenced to work on the 1st or 2nd of May, and I lived there at the locks until the last day of November. There may be days when I would get a few hours' rest during the day, and nights when I would get a few hours during the night, but there is pretty near as much work at night as there is in the day time. I have worked from twelve o'clock on Sunday night until half-past one o'clock on Wednesday night with two hours sleep. I get $1.25 a day, and that includes the night. Night and day are both alike to us fellows." Another lock-laborer, Ottawa, endorsed the evidence of the last witness, and desired to add the following: "I think the hours we work too long for any man to stand it. We work without sleep at all hours, and without meals sometimes. We may commence at 12 o'clock on Sunday night and work all night and we have got to stay out until we have done our work for the time, which is generally 9 or 10 o'clock on Monday morning, before we go to our breakfast. Sometimes we take breakfast and dinner together, and I think it is a very hard thing, after working all night, to have to turn out again and get no rest, and get nothing extra for it." W. Anderson, book-keeper (J. R. Booth, lumberer and mill-owner) thought their men worked eleven hours per day, and believed the night gang in the mill worked one hour shorter time, but he was not quite sure. J. Henderson, manager for J. McLaren & Co., lumber merchants, Ottawa, testified that the men in the saw mill and lumber yard worked from six o'clock in the morning till six at night, with an hour for dinner, while the men in factory or mill worked ten hours a day. ———, Ottawa, testified that he was fourteen years of age and was working in Booth's lumber mill in that city. His working hours were from six o'clock in the morning till twelve noon; he got fifty or fifty-five minutes for dinner, and after dinner they worked until half-past six o'clock at night, except on Saturday when the hands quit at six o'clock in the evening. He said also that the little fellows who worked in the mill at night begin at seven o'clock in the evening and work until five o'clock the next morning. G. L. Chitty, book-keeper (Messrs. Gilmour & Co., lumber merchants), Ottawa, testified that the firm employed in the woods and in the mills, about 1200 men. Those employed in and around the mills worked eleven and a quarter hours a day. P. Chabot, dry goods merchant, Ottawa, said he knew a little of the class of people who went to the shanties in winter. He said these men were working from early morning, as soon as it was daylight, until it was dark; and that during the spring drive they worked between sixteen and eighteen hours a day. J. Doty, manufacturer of steam engines, etc., Toronto, said his employés worked on an average fifty-seven hours per week. They worked until four o'clock on Saturday during the winter, but quit at twelve o'clock noon on Saturday in the summer time. R. McKay, foreman of car department, Michigan Central railway, St. Thomas, said the employés in his department worked nine hours a day for about three and a half months in the year—from about the middle of November until the first of March, and for the rest of the year they worked ten hours per day. J. Burns, manufacturer of engines, etc., London, said that when on full time his men worked sixty hours per week. A. Perry, machinist, Kingston, said that machinists in that city worked fifty-nine hours a week. M. Shields, marble-cutter, Ottawa, stated that the men in his trade in Ottawa work ten hours a day. Mr. ———, Ottawa, worked in a match factory, commencing work at six o'clock and quitting at six in the evening, and at five o'clock in the evening on Saturdays. These hours included an hour for dinner each day except Saturday. R. H. Morgan, miller, Hamilton, said that his millers work day and night during fall and navigation. In such times two gangs are on, changing at twelve o'clock day and night, and each gang runs twelve hours. Ald. W. Hutchison (McKay & Co., flour millers), Ottawa, testified that their millers worked about eleven hours per day. G. Harris, painter, Toronto, said that as a body the painters of Toronto worked by the hour. J. E. Smith, painter, Chatham, testified that ten hours a day and six days constituted a week's work at the painters' trade in Chatham. C. A. Passmore, painter, London, testified that the trade in that city counted fifty-four hours as a week's work. G. Metcalf, painter, Hamilton, testified that the trade in Hamilton worked ten hours a day in summer and in winter about eight hours. G. R. Rundle, contractor and builder, Toronto, said that plasterers work nine hours a day. W. Stuart, jr., contractor and builder, Ottawa, said that ten hours constituted a plasterer's day's work. S. J. Dunlop, printer, Toronto, said the hours of labor in his trade for those who worked on time were fifty-four hours a week or nine hours a day. W. A. Clark, printer, London, said he believed there were no definite hours, but those who worked on time put in fifty-six hours per week, while the average hours of a morning paper compositor were fourteen per day. G. Harper, printer, Hamilton, testified that in job printing offices ten hours constituted a day's work, while the hours worked on time on morning papers were about nine daily. W. Nesbitt, printing pressman, St. Catharines, said that fifty-eight hours a week was the time set by the St. Catharines Typographical Union. L W. Shannon, newspaper proprietor, Kingston, said his men were supposed to work ten hours a day, but they get off on Saturdays when the paper gets out—between half-past four and five o'clock. W. McMahon, book-keeper Parliamentary printing office, Ottawa, testified that all the employés worked on time, and said that those employed as day hands worked fifty-four hours a week, while those who worked as night gangs put in only fifty hours per week. A freight conductor on the Grand Trunk railway testified that through trip conductors have to stand out on duty until that trip is finished—liable to last anywhere from six to twelve hours, and in case of accident or delay it would be longer. He said the average trip, taking the Grand Trunk and Michigan Central railways into consideration, would be about ten hours. Eight hours' rest was allowed on the Michigan Central, while on the Grand Trunk railway conductors have a right of booking for twelve hours, but if a man does this he is thought to be overdoing it. A freight conductor, Canadian division Michigan Central railway, testifies that conductors were often thirty-six straight hours on duty; he was on thirty-six hours at a time himself and only received the same amount of pay as if the trip lasted only six hours, as they were paid by the trip and not by the time taken in making it. A locomotive engineer, St. Thomas, testified that the working day of a locomotive engineer was supposed to be eight hours, but they were frequently called on to do twenty-four hours. He said that when a man has been on for twenty or twenty-four hours he is not fit to exercise that vigilance which is absolutely necessary for the safety of himself and the locomotive and train. J. B. Morford, St. Thomas, division superintendent Michigan Central railway, testified, in speaking of freight trains, that the average time made with a man during several months was about nine hours thirty minutes train time, from the time they reported at the station for duty and the time they got into the terminus. He said that by arrangement with engineers, conductors and brakemen, the company paid them extra when on duty over twelve hours at a time. A brakeman, M. C. R., St. Thomas, testified that on an average he was eighteen hours on each trip. He made two round trips a week, or seventy-two hours' work. They had no regular resting time between trips, as they had to go when called on; and they had to work at night as well as in the day time. J. Hall, foreman at the locomotive works of the G. T. R., Hamilton, said that under ordinary circumstances an engine driver and fireman work nine hours per day, but owing to exceptional circumstances—a break-down on the road, a snow-storm or anything of that kind—he had seen it run up to forty hours of continuous service, and the men are required to keep awake during the whole of that time. After a man completes his trip of nine hours he may take as long a rest as he wishes, but the usual time taken was ten or twelve hours. If a man desired one or two days off after anything special he simply enters in a book provided for that purpose: "I will report when I am ready for duty." J. T. Carey, secretary of the Seamen's Assembly K. of L., Canada, in speaking of the working hours of sailors, said: "A great many times you work all the twenty-four hours; you always work at least sixteen. I think you average sixteen, if no more, during the season. You get no rest at all in the canal."

R. B. Osborne, secretary Osborne-Killey manufacturing company, Hamilton, testified that their employés worked ten hours in summer and nine and a half hours in winter. P. G. Nash, managing proprietor Canadian granite company, Ottawa, said the employés worked ten hours a day except on Saturday when they left work at noon. J. J. Franklin, superintendent of the Toronto street railway, testified that in all the departments men work six days a week, except the stablemen, who have to work on the mornings and evenings of Sundays in attending the horses. He said that as near as he could get at it conductors and drivers on the road worked about eleven and a half hours per day, or sixty-nine hours per week of six days. J. Wren, tailor, Windsor, testified that he was a journeyman at his trade, and that in the busy time they worked from ten to sixteen hours daily, while in the slack time sometimes they did not work two hours per day. T. Allan, telegraph operator, Hamilton, said in his evidence that operators averaged nine hours a day on day work and eight hours for night work. G. T. Tuckett, tobacco manufacturer, Hamilton, testified that his employés worked nine hours a day, and that in the winter time they started at 7:30. J. R. Brown, factory inspector central district, Toronto, found that in a majority of factories, with the exception of woollen mills, women do not work as long as men. T. H. Taylor, woollen mill owner, Chatham, said his employés worked sixty hours a week and they quit at 5:30 on Saturday evenings. A. French, proprietor New Edinburgh woollen mills, Ottawa, said that the employés in his mill worked sixty hours a week. J. Joyce, blacksmith, Petrolia, stated that he manufactured and exported oil-well tools and that the men in his shop worked ten hours a day. He said also that while other employing blacksmiths in Petrolia came down to nine hours a day in winter he had never done so.

IMMIGRATION AND ITS EFFECTS.—The evidence elicited on the subject of immigration and its effects may in Ontario be summed up fairly in saying that the farmer, while admitting that the supply was on the average equal to the demand warmly approved of the incoming of unlimited numbers of farm laborers because there were at least fair opportunities open to them to in time secure farms of their own ; the mechanic on the other hand, and by reason of his experience, is opposed to a system of immigration involving the expenditure of any public money in its furtherance or support, and through which he is placed at a great disadvantage, he claims, in the sale of his labor ; and, lastly, the philanthropist and the relieving officer are witnesses to the fact that undesirable people—some of poor-house taint, others of criminal predisposition, and a percentage of paupers—found their way to Canada under the federal immigration system. J. Allenby, tailor, London, said that immigration affected his trade. He had only experienced this in Toronto, as he had to vacate for immigrants. J. Andrews, farmer, Southwold, testified that a few immigrants found their way into that neighborhood. One of these he himself had employed last summer was an immigrant. Those who came that way usually found employment. He was at the immigration shed in Toronto last spring, and he found it hard to get one, as whenever a lot came in they were taken up directly. H. Baudin, farmer, Pittsburg, testified that farmers had not a good class of laborers for some years ; for the last ten years the majority had not been of a good class. He said the majority of agricultural laborers drift to the cities ; they very seldom go back to the farms. In answer to the question " Suppose a man has got six hours to rest, what can he do to improve his intellect?" Mr. Baudin replied : " He has a long winter to study in. Harvest is a busy time ; we work eighteen hours, and the men are compensated. Work is generally from sunrise to sunset. Machinery has displaced labor to a large extent on well-cleared farms. The self-binder has done away with many men in this section, and where a binder is used it displaces four men in the field. I have conversed with immigrants ; on 2nd January I overtook a young man lightly clad ; he had just come out of the Kingston hospital. He came out last spring from Dublin. He said he had a good situation in Dublin, and was advised by an immigrant agent to come to Canada. He was deceived." W. Bell, relief and health inspector, London, did not find many immigrants applying for relief. He had three or four families on the books who had landed during the summer, and they were pretty hard up. He thought they suffered less this year than in former years through pauper immigrants, but some come every year. T. Brick, carter, Hamilton, alderman, said the general condition of the workingman of that city was very poor. The cost of providing for the number of daily applicants to the mayor for assistance was something enormous. He assigned the prevailing system of immigration as the chief cause of the distress, as lots of men arrive in this country and have not a dollar, and their families are destitute, and they have to live on the rest of the people. In his opinion the present system of immigration brings agricultural laborers to this country, and they work on the farms and afterwards flock into the towns. Where one man is now employed on a farm there used to be twenty-five, and he thought the sooner they stop the system of immigration by which men are imported into this country the better. As regards the bringing in of children, he thought Canada could raise all the children required. Robert Brock, farmer, township of Enniskillen, testified that quite a number of agricultural laborers had arrived in that township during the previous two or three years, and all of them found employment as soon as they came. He did not know that any of them had settled down and become permanent settlers in the neighborhood. P. Burns, laborer, London, being asked if immigration affected his business, replied: "Yes, I believe immigration has a tendency to pull down the wages of laboring men. The majority of immigrants coming out here are naturally laboring men, and some of them are induced to leave the old country by advertisements. In fact that was one of the inducements that led me to leave the old country. I saw an advertisement of the Allan line saying that there was plenty of land here and that laborers were wanted in every part of Canada. When I got out I found there were already too many here." B. Cameron, moulder, Hamilton, said the moulding like all other trades suffered through immigration. In illustration he pointed to the fact that when there was a strike on at Gurney's in Toronto at one time that firm was charged with importing some men from the old country. Wm. Cooper, working jeweler, Toronto, thought there were more men of his calling from England in this country at the time of giving his evidence than there were Canadians. He had reason to believe that firms in Canada make it a point to bring men out from centres of trade in England to Canada. There was one firm especially in Toronto that did this. He did not know the form exactly in which they bring them, but they guarantee them a situation. He believed the firm referred to had a man in Birmingham, in the jewelry business, who gets them men on their writing to him. They pay the passage, and after the men come out they take off so much a week for their passage. He had heard several who had come out here remark that they were greatly disappointed. T. Crowley, journeyman shoemaker, Windsor, on being asked if he had anything to say on the labor question generally, said he believed that the present system of immigration was one of the greatest injuries that could be inflicted on Canada. He spoke of immigration as he understood it, aided or assisted by funds from the Dominion or Provincial Governments, it was immaterial which. J. Davidson, agricultural wood-worker, London, said immigration interfered with his trade, as people came into the city every day and hired themselves at a cheaper rate than the employers can regularly get men for. R. Dennis, builder and contractor, Toronto, said in effect that he never heard of carpenters being brought under contract into Canada from abroad. He thought that most of the time for years past the carpenters have been well employed, and for several years past almost every carpenter could be employed all the year round. He would be able to work two hundred days at least in the year. R. Greer, laborer, Kingston, found that immigration affected the Kingston labor market by glutting it. Immigrants work for less wages than the men here already, or at least contractors pay them less, because they are as a general rule, not competent men to do the work. W. H. Howland, mayor of Toronto, gave a lengthy statement of his experience and views upon the subject of immigration. He stated that not only as mayor but as private citizen for the last eleven years he had been working as a labor of love among the poor of Toronto, and as a consequence he had considerable knowledge of their ways, their difficulties and their circumstances. Speaking of those who sought assistance and the causes of destitution, he said the first cause was, of course, drinking; the second cause was the sending out to this country of people who are unsuited to make a living here; the sending out of great numbers of people who have got the poor-house taint, and who will never do good anywhere. These are sent out in various ways. Up to the last two or three years our Government machinery was used very largely for the purpose of relieving poor-houses. As a visitor to the house of industry he had come across a class of people from a certain place in Ireland; they were thoroughly unsuited for this country. They were demoralised and all the spring was taken out of them for honest or faithful work. In the same way there has been progressing for some time an immigration from England, from the different poor-house unions; they can be traced in certain streets of the city. For instance, in East London they are now sending out families of eight or nine children and sometimes more. It makes one feel that the children might have a chance, but the parents are unsuitable; having no courage, or pluck, or hope, they drop at once into the old habit of depending on chance work or assistance. They had been so much in the habit of getting help from others that they do not think of being able to help themselves; in fact they are a helpless immigration. Speaking of orphan boys, he said, many are sent out by the poor-law unions who have nobody to look after them, and he thought that that was a very wicked way of sending them out. Somebody agrees to find them a place; they are put into a place, but if they are not well placed they drift back to the street. Some of them do well, but it is a wickedness and a hardship to send them out in this way. As a cure for this he thought Canada should adopt the American principle, which would prevent them being sent out. He thought the country should stop helpless people who are going to suffer; stop them at the border. In this country the climate produces more suffering than in the old country, and he did not think it fair to send to Canada people known to be paupers and that we can not make men of; but he would be very sorry to limit a class of immigrants of which there was any chance of success. W. R. James, printer, St. Catharines, said that in his opinion immigration tended to the lowering of wages; the immigration of laboring classes, whether mechanics or ordinary laborers, was injurious to those of that class already in the country. W. J. McAndrews, printer, Hamilton, stated that in his opinion it was wrong on the part of the Government to assist immigrants to Canada. He knew this was being done all the time. He believed that the Government pays the Allan steamship line to bring them out; he knew it to be so. There were deaf and dumb printers who came to Hamilton and applied to the mayor for charity. They went to Montreal, and went there on money furnished in Hamilton, but they came out by other people's money. W. J. McFarlane, carriage-maker, Toronto, testified that immigration interfered with his trade; for when immigrants come first they take cheap wages to get instruction. This interference in his trade came most from the Scotch and Irish. J. McKenna, moulder, London, said immigration did not affect his trade to a large extent, although quite a number were coming in from the United States and from England. R. B. McPhadden, boiler-maker, Kingston, testified that from personal experience he was justified in asserting that immigration interfered with and affected boiler-makers by overcrowding the market. Miss Machar, secretary of the relief association, Kingston, in speaking of the applicants for relief said that a good many of the families where there were men, were families who had recently arrived; families who arrived a month or two before the winter began. They were idle through no fault of their own, but they could not get work. She thought that half those seeking relief were immigrants. Those who sought relief this winter were nearly all new arrivals. Continuing her evidence as to the condition of some applicants for assistance, she said: "We found a family in great need, with hardly any covering. The father had been a coachman in Cornwall, receiving £20 a quarter [£20 a year more likely] and a free house, yet he had been induced to come out here, where he had been unable to get a coachman's position, and had been out of work till his family was nearly starved." R. Meek, journalist, Kingston, had his attention drawn to cases of very indiscreet immigration, that is cases of men being sent to this country without means or aims, and perfectly penniless. Those people in his opinion should not be sent here to add to the glut of labor in our market, but he was not opposed to the immigration of good men. R. E. Menzis, manager of the Producers' Oil Refining Co., Petrolia, held that immigration interferes with labor in any business, because if an employer can hire a man for 75 cents a day he will make it his business to educate that man. C. A. Passmore, painter and decorator, London, said that immigration did not affect his trade now as much as it did in former years. The immigrants as a rule came from the old country; those who came were not up to the class of work required; they had not served a regular apprenticeship and were not *bona fide* workmen. S. Peddle, cabinet-maker, London, testified that so far as the laboring classes were concerned he thought there were too many of them in the London market; many seeking laboring work and could not get it. In reply to the question "Does immigration interfere with your work?" he said, "Yes, it does considerably. We have Italians who come out and work at prices which we will not accept; I know of two smart mechanics laid off for three months in this city on that account, although they had been working here for many years. At the same time there were immigrants here who were green, and who could not speak the language, at work because they would take a job for a little less money. These immigrants came to London direct and were assisted." E. Perry, moulder, Kingston, said that in his opinion immigration had not affected his trade to any extent in Kingston. J. R. Pettit, farmer, Grimsby, had no difficulty in getting hands when he wanted them, but sometimes in summer there was a scarcity. T. Pumfrey, moulder, Hamilton, thought the greatest evil workingmen in the Grand Trunk works complain of is assisted immigration, besides which a man beginning on the first of a month has to work until the 11th of the next month before he gets any pay. D. Rogers, farmer, Kingston, had employed immigrants who had come to him with nothing; they had come out themselves at first, and afterwards sent for their families; he could quote five or six instances. J. Roney, house-painter, Toronto, said a great many old country painters come to Toronto, and that they had a tendency to work under the pay that Canadian painters receive, but of course these were exceptions. Edward Taylor, city relieving officer, Toronto, testified that he found a great many recently arrived immigrants among the applicants for relief; that applicants are principally men, and many of whom say "If you give me work I will not go to the charity." He thought the city could profitably provide work for those men and thus avoid giving them relief, because he noticed that when men were employed by the day on the Don improvements there were fewer applications for relief. While the city had some chronic paupers, still Mr. Taylor believed that many of those applying for relief would prefer getting work. A. Short, bricklayer, London, said that immigration hurts his trade in that city. This resulted because of bricklayers coming in there while there was not work enough for residents. He thought most of those immigrants came from the old country; very few from the United States. Many of the former told him they were better off in the old country than here. J. Smith, Dominion immigration agent, Hamilton, in detailing the system under which he was employed, said that, as far as the Dominion Government was concerned, assisted passages had ceased. As to the character of immigrant children his opinion was favorable with the exception of one class—that from the reformatories and industrial schools in the old country. He found that that class of children, having been committed to the industrial schools or reformatories either for vagrancy or crime, are apt to lapse back under temptation here or elsewhere. Thomas Stewart, (Stewart & Fleck) machinist, Ottawa, was of the opinion that most of the strikes in Canada were caused by the importation of foreign labor; laborers from countries outside of Canada, who come here and are willing to work at lower wages than Canadians. The result is that Canadians are asked to work for less wages than they can live upon, keeping the long and hard winter in view, and the result has been dissatisfaction and strikes in various parts of the country. He held that this always would be so as long as the same principle of supporting foreign labor exists. As a Canadian workman he objected to having the workingmen of foreign countries brought here, and assisted to come here, when there is not sufficient employment for those who are resident in the country. In reply to the question "Will you say what are foreign countries?" he replied: "Any country outside of Canada is a foreign country, in my opinion. I say anything outside of Canada. I object to those people being brought into this country—assisted into this country to compete against us. That is what I mean. Unfortunately I am interrupted and prevented from giving free expression to my thoughts. Then, as I said before, not having had the experience of a Canadian winter they work at lower wages in the summer than we, as Canadians, with a practical knowledge of what the winter is, can possibly do. In some trades in this country it is only practicable to work during the summer months. A great many of these men, such as stonemasons bricklayers, plasterers, and so forth, are idle, practically speaking during the winter; they have to go and work at some other business—some as common laborers in a shop, and thereby enter into competition with our laborers for the winter." R. Symons, shoemaker, London, said the contention of workingmen was that while the Government taxes everything that is imported which the workingmen have to consume, and make them pay high prices in consequence of that, they, at the same time, import labor to compete with our workingmen, and thus the latter are placed at a disadvantage. In concluding Mr. Symons said, "We are opposed to the whole system of assisted immigration on these grounds; we are opposed to immigration as workingmen, but we are especially opposed to the system of assisted immigration.

INDUSTRIAL AND TECHNICAL TRAINING.—The question of industrial and technical training, either as an adjunct to the public school system of the country, or through the medium of evening classes and night schools, is one that is each day receiving increased attention in Canada, and more particularly in the province of Ontario. The volume of evidence tendered before the Labor Commission, and bearing directly on the subject, gives ample testimony to the fact. All the witnesses were in accord as to the great necessity existing for the creation of some system under which such training could be imparted, but there was some difference of opinion as to the form that system should assume at its inception. The tenor of all the evidence taken, and bearing on industrial and technical training, may be fairly inferred from the following, which is submitted as being also representative of the views of different classes of the general community on the main issue:—Wm. Houston, librarian of the Ontario Legislative Assembly, in the course of a lengthy statement, among other things said: "Speaking of the artisan class, I would not be understood as saying that their condition has not been absolutely improved. I think they are absolutely better off than they were. Relatively they are in some respects worse off, and I believe they are bound to be worse off, unless something can be done in the way of technical education." W. H. Howland, Toronto, would combine technical education with ordinary public school education. He held that if the country is to have first-class workmen, it must have a definite system of apprenticeship, and carry it out. As to the Mimico industrial school, he explained that it was modelled on the English system. The pupils are so taught as to be able to do anything about a farm—the handling of horses, sowing, planting, the use of implements, simple carpentering work, mending harness, etc.—so that when a boy is given out to a farmer he finds him posted in the very thing he wants. In this school it is sought to train the boy to use his mind, his hand and his eye together, so that when he is turned out he will be able to learn any trade, and will not be merely stuffed up like the boys now to be seen turned out of the public schools. J. Bain, librarian of the free library, Toronto, testified in answer to the question, "Do mechanics as a rule seem to take advantage of the opportunity to study mechanical works in your library— in other words, is their reading more particularly confined to these, rather than to other kinds of works?" that that was a very difficult question to answer, but from the condition of the books on the shelves—those referring to the arts—he was satisfied they were very extensively read, because a great many are very much worn. During last year, 5,000 volumes in round numbers in the arts were circulated for home reading, in addition to those used in the library. C. T. Campbell, M. D., London, thought there could be no question as to the advisability of technical education. His opinion was that some of the present course of instruction in public schools might be dropped, and in view of the large number of boys who develop into mechanics, the elements of science as applied to mechanics introduced in their place. J. Galt, civil and mechanical engineer, Toronto, said he had some experience in the industrial or technical education of young people. He had taken considerable interest in the subject since he came to this country, and found there was a great necessity for it. There was now in this country nothing coming between common school education and university education. The most important part of education of a practical kind is obtained after a boy leaves school, and enters a distinct trade, calling or profession. There are no facilities of any consequence whereby a workingman can become conversant with that instruction necessary to fit him to be a good workman, well up in the practice and theory of his business. There are really no facilities of that kind now. He knew that in a great many universities they were introducing practical work by means of workshops, and as to this phase of the subject, his words were: "You cannot make that shop work take the place of apprentice work, or of boys going to learn a trade, but it is thought that if they get theory combined with that amount of practical training, students will have a pretty good idea of practical work, and be more competent. It can never, however, take the place of apprenticeship, or of the thorough work of a workman, no more than the work in the evening classes can make a thoroughly theoretical man of a workman, but at the same time it places him in a superior position in carrying on his trade." John Galbraith, professor of engineering, Toronto, said he was connected with technical education only in the teaching of engineering at the school of Practical Science in Toronto. He held that it is quite certain that every workman, no matter what trade he is in, would be benefited by having better opportunities for learning the theoretical side of his work. If boys are to be taught trades, such as blacksmithing, carpentering, and work in a mechanics' shop, he said, it could be easily seen that the expense of that would be on a scale, if efficiency was to be secured, that would make it altogether impossible. He did not think it at all possible to teach trades generally, except as they are being taught now—that is to say, by a boy going to learn a trade for himself. At the same time he thought there were certain parts of theory connected with each trade that a man or a boy should know more fully, and that knowledge they have no chance of acquiring as things are at present. He inclined to the belief that perhaps the best way to secure it would be by means of night schools. Boys or men working at trades cannot give up time in the day; it is utterly useless to think of it. He pointed out, also, that boys until thirteen or fourteen years old go to school, and then go to a trade; they could learn the theoretical part at a night school. He thought the only kind of successful teaching in that way has been by men familiar with the trades taught; he did not think the ordinary school teacher can teach the theory of blacksmithing, carpentering, or anything else. In answer to the question, "Could not the children, while attending school, be taught generally the use of ordinary tools, the natures of woods, the properties of metals, and so on?" Professor Galbraith replied: "I have very little confidence in anything of that kind. I do not think it would be worth a snap of the fingers, because there is nothing systematic in it. They are all separate and individual facts, and they would go through a boy's mind like a receipt in a cook book. Learning a few little facts of that kind does not constitute training. Take a boy of fourteen who learns a little carpentering, and the use of tools. I can hardly imagine what could be taught but a little theoretical knowledge regarding different things; but when he has obtained that knowledge you have not educated him. The idea of taking a little of this and a little of that, whether it is wanted or not, is perfectly absurd, and a waste of energy and time." Joseph Wright, employing plasterer, Toronto, said that in his opinion, bricklayers, carpenters, stonemasons and plasterers, should certainly have technical schools as much as their children should be instructed in the public schools. J. Dixon, carriage builder, Toronto, thought technical instruction would be beneficial to boys, but did not think they would avail themselves of it. H. Lloyd, journeyman carpenter, Toronto, had always thought that there should be a technical school for the province of Ontario, under the control of the Government of the Dominion, with, of course, competent instructors to impart the scientific part of education to the men in the evenings, and in the daytime in the winter season, when they are not very busy. He did not think it would be possible to attach any portion of the training to the public schools. A. M. Wickens, stationary engineer, Toronto, on being requested to make any suggestions he desired to the Commission, on this subject, said: "Yes; the engineering people of this country want a technical school very badly. If we want a high-class engineer, we have to send to England, Scotland, or the United States. Young Canadians go to the United States, to the technical schools of that country, and the result is that they stay there, getting the best situations in the country. I was looking a short time ago at a list of the Boston technical school, and I found twenty-seven Canadians who had passed through that school, and had remained there, getting exceptionally high salaries for works on the large railways on the other side, and other work of that kind." E. Hawkins, engineer, Toronto, said that a boy while attending school could not be taught sufficient of the theory of a trade to enable him to go to the practical part of the trade intelligently, as mechanics is a branch of itself, and could not be taught in the public schools. J. Kane, carpenter, Toronto, had thought over the subject of technical education a great deal, and inclined to the belief that much would be gained by trying to teach boys the theoretical portion of a trade, and if they learned that before they began their trade, it would be an immediate and direct benefit. He did not think it would be practicable to teach it in the public schools. H. Gnosill, brass-finisher, Windsor, was employed in the wire works, and believed that a technical education would assist the wire-worker to learn his trade, more especially, as he hardly ever gets two pieces alike. He said a knowledge of drawing and designing would be a help to the wire-worker, and that he needed too—he cannot get along very well without it. J. L. Hughes, public school inspector, Toronto, said that under the Ontario school law parents were responsible for sending their children to school between the ages of seven and twelve, but the children may attend until they are sixteen years old, and no desire was found on the part of parents to avoid that provision of the law. He was certain it would be possible to graft on the public school system a system of technical education for young people. What he would urge was manual or industrial training, such as the training of the hand to make it expert, and the training of the head to make it clear and definite in controlling the hand, together with some slight training in the use of tools, which should be done without teaching any particular trades. He believed the best way to make up for a lack of training by apprenticeship is by means of a comprehensive system of industrial and manual training. A. W. Wright, journalist, Toronto, believed that if the country is going to keep up the standard of workmanship, it will have to have schools of technology, as well as a good apprenticeship system. He thought a plan which is adopted in Montreal by the council of the Arts and Sciences, is a very good one; it is having night schools, where the theoretical part of the trade is taught. He thought that among workingmen there was a desire to see a system of technical education inaugurated, and that one result would be the improvement in the quality of workmanship. John Doty, manufacturer of steam engines and machinery, Toronto, believed it was necessary, in order that a man may be a skilled engineer that he should have a technical education—that is, to a certain extent. A man with technical knowledge, and who is a good mechanic, is a better man than a mechanic without technical knowledge. In many cases, Mr. Doty held, men who had not a technical knowledge are only equal to inferior men. He thought a young man should receive some technical education during his apprenticeship, and was of opinion that evening schools for the purpose would meet the requirements. He was satisfied that an artisan who received a technical education would be more successful than one who did not receive such an education, as he would be a superior mechanic. R. Kerr, foundryman, Walkerville, was satisfied that boys would make better mechanics if they had some technical training in schools, and that instruction in drawing and rudimentary matters would be a great help. H. Neilson, (Coltart & Neilson) furniture manufacturers, Chatham, thought it would be a great advantage if the boys who came to work in their shop had some technical education, as it would be a great help to them in learning the trade. J. M. Green, manufacturer, builder and contractor, St. Thomas, held that it would be a great advantage to boys if they had a knowledge of freehand drawing, so that by giving them a pencil they would be able to dissect a plan for instance. In his opinion, training of that kind, when a boy comes to be a mechanic and requires to use it, would be very valuable. G. Wrigley, printer, St. Thomas, thought that technical instruction might be combined with the ordinary common school course, between the ages of seven and fourteen—an elementary knowledge of the use of tools and things which will be of advantage in mechanical trades during future years. In his judgment, the text-books might or should embrace that information, as well as all scientific information. C. A. Passmore, painter and decorator, London, thought it would be a great benefit to apprentices were they to receive instruction in such subjects as drawing, designing and moulding. W. J.

Vale, printer, Hamilton, said that he had devoted some attention to the subject of technical schools, and thought that any instruction in the mechanical line was valuable to a mechanic and beneficial to a young lad just leaving school and starting his apprenticeship, as theory helps him to obtain practical knowledge. Wm. Birkett, secretary-treasurer Dundas Cotton Mills Co., Hamilton, said that the possession of a general technical education on the part of children employed in that industry would be of unquestionable advantage both to the children themselves and to the mill: to the children, because they would to a certain extent, have a practical knowledge as to what they were doing; and to the mill, because by that means power would be in the employé to get out with the same machinery a much larger amount of work. Technical education was very much wanted in their business, especially in carding, spinning and weaving, as well as in designing and drawing. Alfred Perry, machinist, Kingston, was positive in the opinion that a knowledge of mechanical drawing, and a knowledge of all kindred subjects, would be a benefit to apprentices going to the machinists trade, and thought there should be schools for imparting that knowledge—schools in which mechanics could be taught. He said that as it is, a boy goes into a shop to learn a trade and is "as green as grass." R. Charlton, foreman boiler-maker, Kingston, said that the general rule in his trade was that a boy will not learn that trade unless he has some aptitude for it—unless he has some technical education. T. Stoddard, pattern-maker and machinist, Ottawa, had taken every opportunity for improving himself in the matter of technical education. He was satisfied that a technical training in freehand drawing, moulding, designing and modelling, would have a tendency to make apprentices more apt at the various trades. He would prefer seeing these subjects taught in a separate school, rather than in the public schools. "I attended the Watt institution in Edinburgh; mechanics' natural philosophy, chemistry and mathematics were taught there, with some other subjects, including drawing. I have derived great benefit in all my trade experience from the knowledge I gained there in mechanical teaching—not exactly mechanics proper, but physics; the laws governing air, water and so on. A mechanic having that knowledge is more apt to be quick in discerning whether there is anything the matter with steam engines, boilers, water-wheels or any part of the machinery." G. F. Stalker, Ottawa, had given some attention to the question of technical education of mechanics and apprentices. All his experience had been confined chiefly to teaching them drawing as applied to their particular trades. He had a great many apprentices and journeymen of different trades with him, within the past four years. He had taught them practical mechanical drawing if they were machinists, and construction if they were carpenters or masons; he also taught them the elements of industrial design. Last year he had over eighty pupils, including twenty-three ladies. The ladies desired to draw and color simply; some learn for industrial purposes. He had designs by ladies for the industrial work—designs for wall paper, tapestries, etc. As to the age best to impart technical education, he thought it ought to begin with boys in an elementary form, while they were at school, say about ten years of age, and they should carry it on all through their apprenticeship; they should never give it up. He advocated the establishment of evening classes for apprentices and mechanics, where this class of instruction could be given, and held that the Government should establish a thorough system of technical education, in all large centres at all events. He would think it advisable, also, in connection with all these technical schools, that there should be industrial schools, so that the technical knowledge could be brought to a practical test—the two going hand-in-hand, as it were. Wm. Garvock, carpenter, Ottawa, realised the benefits of technical education to his trade, and thought if technical training was imparted in all branches of trade, it would to a large degree remove inequalities among men. He inclined to the belief that this instruction can be best imparted by evening classes. He was certain that it was absolutely necessary that teachers should have a practical as well as a theoretical knowledge of the subject; in England the teachers are men taken from the trades, and are taught in that way. M. C. Edey, carpenter and builder, Ottawa, approved of technical education, for the reason that if a man understands drawing, more symmetry will be found about his work, as a rule, than can be found around that of a man who does not possess that advantage. He held that a man who understands drawing, or is fond of drawing, had some head and shows his knowledge by his work. Employers pay for head as well as body; a man may be a very good workman and have a very poor head. J. B. Boyle, inspector of public schools, London, thought that technical education might very well be engrafted on the public school system. R. Dennis, builder and contractor, Toronto, considered that a training school in which a boy would learn the carpentering trade, or the elements of it, would be an advantage, and that was what was wanted in Toronto. A. Smith, carpenter, Petrolea, said he had given the subject of technical education for mechanics' children some thought, and was of the opinion that such education would be a great deal better than a good deal they learn now. He held that boys going to school ought to be taught the rudimentary principles of science.

ORGANISED LABOR AND ITS EFFECTS.—On the main question as to whether organisation was or was not beneficial to those who work for wages, there was little if any difference of opinion on the part of those who gave testimony, either as employers or as employés. A divergence asserts itself only where the methods pursued, in some instances, by labor organisations had a more or less tendency to trench upon what one or other employer looked upon as an encroachment upon the right of free contract and unrestricted authority in the transaction of his own business. A feature of the evidence on the subject of organisation lies in the curious fact that some of the witnesses, while condemning by implication the existence of labor organisations on the ground that workingmen would always be fairly paid and honestly dealt with on their merits by employers, at the same time highly approved of organisation on the part of manufacturers and employers, not only for the purpose of dealing with employés on all matters of difference between them, but for the purpose of defining and insisting upon the selling price of articles manufactured by them respectively as well. While the amount of evidence in this instance was over the average, its tenor is fully exemplified in the following summary. J. Davidson, agricultural wood-worker, London, in reply to the question "Do you find organisation a benefit?" replied, "Yes, we do, it is a help to us in getting our money, to an extent, because we always used to have to wait on Friday night while each man of a hundred men was paid, and that would keep you until seven o'clock at night. Last season the men used to have the money carried round and that was the step in organised labor. We only work nine hours on Saturday now, but before we worked ten hours." J. D. Nasmith, employing baker, Toronto, testified that the shortening of the hours of labor of bakers was due to the combination among the men. He did not think it became necessary to increase the number of men when the hours were shortened; there was just a re-arrangement of the hours of work. Wm. Carlyle, employing baker, Toronto, said he did not agree with Mr. Nasmith, in the statement that he did not think there had been more employment given since the hours of labor had been shortened. He (the witness) did not think there were two opinions as to the fact that men do not do the work in nine hours that they did in twelve. He did not find the rules of the organisation respecting the rate of wages disastrous to his business. He employed only members of the organisation; and he thought the shortening of the working hours had a tendency to keep men sober; that is, a man is more liable after working hard and long to drink than one who has not put in such long and tedious hours. S. Robinson, journeyman baker, Kingston, said the increase in the wages of the bakers of Kingston was due to the efforts and existence of the labor organisation. H. Barrell, baker, Ottawa, testified that since the previous Monday the bakers of Ottawa were working day work, and this came about through the formation and existence of a union on the part of the journeymen of the trade; they made a request for day-work, and the employers, with one or two exceptions, granted it. T. Bowick, employing blacksmith, Toronto, said that wages had been stationary for a number of years; this year the men formed a union and wages went up as a consequence, he believed. In the event of any difficulty arising between his men and himself, he would prefer the union to appoint one man, he to appoint another, and both these to appoint a third as arbitrators for the settlement of the trouble; the result, he thought, would be an agreement, the nature of which neither party could honestly evade or ignore. We would stand, the witness said, on equal terms; one as selling and the other purchasing labor.

A. Miller, shoemaker, Hamilton, said his trade was organised, and was satisfied that organisation had been a means of keeping up the wages, both for men and women engaged in the trade. J. Volume, shoemaker, Kingston, stated that his trade had been partially organised for about a year, but he did not know that any benefit to the trade had resulted. H. Burke, box-maker, Toronto, testified that he was an employer of labor. He could not say whether or not the employés were organised now, but they had been some two years ago. At that time the wages were low, and the employers' combination induced the men to join a labor organisation. In this the employers were successful, for the men did as advised. An employer at that time so advised himself, and that he would get a rise of wages. Some of the employers then sent around circulars that the men had been the cause of a rise in wages and they would have to raise the price of boxes. After they got the price of boxes raised they did not want those men any more. With that raise and use of improved machinery they had done away with the services of a great many box-makers, and many were out of employment at the time of his giving evidence. There was a pretty heavy strike and lock-out last year, which arose, he thought, through throwing men out of work who belonged to organised labor. The men tried to settle the difficulty by arbitration, but the employers refused. At the time of the discharge of the men the wages were 20 cents per hour for first-class hands and 18 cents for second-class hands, but now the prices were from 12½ to 15 cents per hour for hands, so that the employers have 25 per cent. profit for the boxes and 25 per cent. on the labor in addition. He did not know who paid the increased percentages ; it was said the price of lumber had raised. J. Firstbrook, box manufacturer, Toronto, testified that the wages of box-makers in his employ had decreased during the preceding year, but the average wages of his employés had not so decreased. The decrease was not due to the tariff ; it was due to the fact that one day when he came back from dinner at one o'clock he found that sixty or seventy men had left the shop without giving any reason or intention of their action. About an hour after the men struck a deputation of them waited on him and said there was a non-union man in the shop and if the firm discharged him they would come back. They made no offer to settle the matter by arbitration, and he had no difficulty in filling the places of those who had thus left the employ, as the supply of idle men offering was greater than the demand. J. Sullivan, bricklayer, London, said his trade was organised in that city, and the men considered they were benefited thereby. The benefits are that through it the men get better wages and they help each other to get work. The members did not like strikes at all ; and the rules of the society only countenanced a strike as a last resort. In the event of a difficulty arising between the employers and the men, so far as he knew, the latter were favorable to arbitration as a means of settlement in the event of a failure of an amicable arrangement between those immediately interested. H. T. Benson, builders' laborer, Toronto, testified that the Builders' Laborers' union numbered 925 members on its rolls. He said that before they formed a union the men had greater difficulty in receiving wages due them than they experience now, and that while wages then were only nine or ten cents an hour, now the rate is eighteen cents. Besides this the union pays a death allowance of $75. This provision prevents many a dead member being buried as a pauper, at the expense of the ratepayers of the city. G. Greer, laborer, Kingston, said that a good number of the builders' laborers in that city was organised, and they found such organisation to be beneficial. J. Hayman, builder and contractor, London, testified that there was a building branch of the Board of Trade in that city. He supposed fines would be imposed on the members for violation of any of the rules ; such as acting mean to any member, trying to best him, or doing anything dishonest. The reason the Builders' Exchange was started was to talk over the best means to adopt towards men during a strike. W. Stuart, jr., building contractor, Ottawa, had worked as a journeyman for a number of years, and had been connected with the workingmen for the last twenty years or more. He and others organised a union of masons, bricklayers and stonecutters, about eight or nine years ago and one of the things secured as a result was quitting work at five o'clock on Saturday. R. Baird, carpenter, Kingston, stated that carpenters in Kingston were not organised to any great extent ; not enough to make labor trouble. He had known wages to be cut down in the fall, when hours are shorter, and organisation among the men would likely have prevented this. Union men are also better informed as to wages. J. S. Ballantine, carpenter, Toronto, said it seemed to him that the formation of employers into a society, was done with a view to keeping down all union whatever on the part of the men. In the last difficulty the carpenters of Toronto had, the question of capital and labor was one of minor consideration ; it seemed to be a question as to whether any union on the part of the men would be allowed. He held that unions had been a direct benefit in shortening the hours, and thereby raising wages. He had knowledge of the fact that employers had discharged men because they belonged to the union and declined to leave it. J. Callow, carpenter, Seaton village, Toronto, considered it an advantage to belong to the union. It had a tendency to rub away the rough edges and bring a man into work. Besides, there were the sick and death benefits, of which he thought a great deal. He thought also that he had got better wages as a member of the union. R. Dennis, contractor and builder, Toronto, in describing the steps which led to the agreement between the employers and the journeymen carpenters, said that agreement could hardly have been brought about except by concerted action, and in that sense the union worked a benefit all round ; the men obtained what they wanted in that case undoubtedly. T. Green, carpenter and builder, London, said the carpenters in that city had an organisation but they did not interfere with the employers to any extent, except in the case of strikes. A. Henderson, carpenter, Detroit, testified that there was a mixed Assembly of the Knights of Labor in Windsor, and the members, being carpenters, would not work in the same shops or do the same work with non-members, unless the latter held brotherhood cards. Through the combined action of the Brotherhood of Carpenters and the Knights of Labor the nine hour working day was established in Windsor. The witness, being a member of the union or Brotherhood of Carpenters, in reply to the question as to why a union man refused to work with a non-union man, said : " We have great reason for not doing so. We have non-union men who are working ten hours a day while the union men are working only nine hours. It is not right that a non-union man should work ten hours for an employer for whom I am working only nine hours. I do not see that it is right that we should be compelled to work with him, and we will not do so. Besides, non-union men take any wages offered them." H. Lloyd, carpenter, Toronto, testified that during the past eleven years, the business of carpentering had made progress in an upward direction, which he attributed very largely if not wholly to the organisation which had been continuously taking place in the carpenters' ranks. He believed that organisation was a direct benefit to the cause of labor. J. Dixon, carriage builder, Toronto, did not think his men would be better off if they had a union. He thought being master of his trade was decidedly better for a man than being a member of a union, and believed each man should be paid according to his ability. A. Eichhorn, manufacturer of cigars, Toronto, testified that his firm had all union men in their factory, and that it was an advantage to have the union or blue label cigars for sale in cities. S. M. Hodgins, cigar-maker, Stratford, testified that because of refusing a reduction in wages in 1882, the union cigar-makers of London, (where the witness was giving evidence) were locked out by the employers and afterwards black-listed. He said females were eligible to membership in the cigar-makers' union, and as members they received the same wages. Besides this, the benefits are that if a man is sick he receives $5 per week for sixteen weeks, after that, if his sickness continues, he receives $3, and then it comes down to $2. At death the amount is according to the length of time he belonged to the institution ; it runs from $200 to $500. R. J. Mills, cigar-maker, St. Catharines, knew of men being black-listed by manufacturers around that city. He said there was a law of the union against the truck system. J. Robinson, cigar-manufacturer, St. Catharines, testified that he employed union men only. He thought the cigar-makers' union had about the best plan of any for gaining a strike. If a union wants to go on strike, the different grievances are sent in to the International president, who lays it before the executive board. If they did not see fit to sustain the strike, the men then have a chance to appeal to all local unions, so the cigar-makers of Canada have a chance to vote ; but if they sustain them they strike. They take bills of all labor towns, and if it is lower than other towns they sustain it. They always sustain it against the truck system. In many cases where a cigar-maker has not enough money to pay his board, the union advances it, and he deposits his card. He cannot get that card back until he produces a receipt from his landlord, John A. Rose, cigar-manufacturer, London, said that at one time he employed forty union men, but they caused him trouble by shirking their work and plugging cigars—stuffing them so that they would not smoke. On discovery he fired those who did the plugging, and he had no union men in his employ since, and he never would have one. He knew lots of cigar-makers who were "black-listed," and they deserved it; he, himself had a lot black-listed at the time of giving evidence. He said his cigars were objected to (on account of not being union made) in any town where a good many mechanics were employed—where labor was organised. R. Somerville, cooper, Windsor, said that the Knights of Labor organisation was a benefit, because only for organised labor the coopers would be worse off still than they are. J. Bell, secretary-treasurer Ontario Cotton Mill Co., Hamilton, testified that there was a cotton manufacturers' association for the Dominion, and that this body fixed manufacturers' prices—the minimum rate. Any manufacturer selling under the rate fixed by the association would be fined, according to the rules and regulations governing the association. S. J. Whitehead, mechanical superintendent Forge Company and Rolling Mill, Hamilton, testified that there had been a union in Hamilton in connection with the Amalgamated Association of the United States, but it became necessary to upset it. This union was very foolish, and began to dominate. As a result the gentlemen who ran the place concluded they would be better off without it, so they just sat upon it and squelched it out. This had been a benefit both to employers and men, and he had no doubt the men themselves would tell the Commission so. He knew it be so in their mill, for the men get better wages, and have no trouble; they all claim they are better off without the union. J. J. Bickley, overseer in cotton mills, Cornwall, testified that he was then and for some time prior idle, being "black-listed," because of being a Knight of Labor, and having taken an active part in labor matters. His experience had been that if labor was properly and thoroughly organised, strikes would be of seldom occurrence. In support of this, and to illustrate the plan laid down by the Knights of Labor, he said: "We will take for instance, the Stormont mill. We will say, for the sake of argument, that it is thoroughly organised, and that there are grievances. Grievances are sometimes imaginary, and sometimes real. If there are any grievances the Knights state the case to the executive board of the local assembly. This body investigates the matter, and if the grievance was found to be real they would try and effect a settlement with the manager. Failing in this, the case would be brought before the executive board of the district, with the view of securing a settlement if possible. If the manager would not agree to anything, the executive board would then call the help out. From the time of being so called out, the help are entitled to the support of the Order, and always receive it, but they cannot receive any support until they are so called out; so it may be seen that if a place is organised they cannot jump at the spur of the moment and leave the company's service. If they did so they would do it at their peril, because the order would give them no support." A. Cousineau, employing baker, Ottawa, did not consider that workingmen got too much wages to live upon. In business centres, he said, men belonging to the union and to the Knights of Labor got more wages than did those not members of these organisations; there were many laborers not belonging to the Knights of Labor and their wages were not sufficient to keep their families going. G. Gnosill, brass-finisher, Windsor, testified that the working people within the last four years and a-half had been improving as to wages; since the Knights of Labor took it up they have got on wonderfully better. M. Quinlan, electrician in the employ of the Canada Cotton Co., Cornwall, testified that he had heard one overseer in the factory say he would get rid of every Knight of Labor working for him, and he since discharged three or four. C. Simpkins, laborer, Windsor, testified that he lived in South Carolina before the war, and had been set free by the United States. He had no knowledge that any question had ever been raised against him in Windsor because of his color. He was a carpenter by trade, but could not get work enough as such to make a living. He belonged to the Knights of Labor and this had helped to keep him in employment; employment he would not get had he not been a member of that organisation. He had been and was then trying in the assembly to get the time regulated to nine hours, as mechanics have. G. White, stonemason, Cornwall, being asked if he ever knew a stonemason to be refused work during the strike in the cotton mills, replied : "Yes, because we were trying to have a settlement between the help and the employers; they knew we were Knights of Labor and so we could not get employment from employers in our trade." A. Perry, machinist, Kingston, said the machinists of that city were organised as a distinct body. He was certain that benefit accrued as a result, in the increase of wages, and in helping one another, as well as creating a more harmonious feeling among the men. J. Boyle, iron-founder, Toronto, testified that he was an employer. He was a union man in England, and president of a local branch in that country. Being asked if he found it beneficial to belong to organised labor, he said : "Yes ; what would we do in London without it? We get sick benefits, accident and superannuation and funeral money." J. McClary, iron-founder, etc., London, did not consider a union was arbitrary that provided that its members shall not work for less than a certain rate of wages, as it was their duty and privilege to get all the money they could for their wages, but he did not consider it a proper thing for them to endeavor to force idleness on other men who were willing to work. He said he was a member of the manufacturers' association. In answer to the question, "Is any punishment inflicted supposing a man sells a stove at a less price?" Mr. McClary said: "I do not think it proper for me to answer that question." T. Pickett, iron moulder, Toronto, testified that organisation was beneficial to his trade in that the men got fair rates of wages, while the employers received a fair return for the wages paid. Besides the union men receive $4 a week sick benefits while in the event of death $300 are paid the widow and children. J. T. Carey, secretary of the Seamen's Assembly of Canada, St. Catharines, testified that a member was entitled to $4 a week during illness, and a death benefit of $50 to bury him, or to give his friends as the case may be. Outside of this, organisation also benefited sailors in raising the standard of morality among them, in bettering their condition financially, and in fact giving them a better acquaintance with each other and with each other's wants. Wm. Stephens, sailor, Kingston, testified that when there was no Seamen's Union wages were down low, and sailors had to do something else to get enough on which to exist. Some of the benefits of the organisation were the increase which had taken place in wages, the sick benefit and the provision of $50 towards defraying funeral expenses of deceased members. A steamfitter, Toronto, testified that it was within his knowledge that labor unions secure better wages, shorter hours and other advantages to workingmen, which could not be secured if there were no unions. It would be necessary to have a union in order to be able to treat or have conferences, so as to be unanimous in their opinion with regard to what they required. J. J. Bickley, overseer in cotton factory, Cornwall, said he knew that strikes were less frequent in towns where men were organised, than where they are not. His experience led him to believe that if labor was properly and thoroughly organised, strikes will seldom occur. For instance, if the hands in one of the Cornwall mills are all Knights of Labor, the order would have control over them, and could keep them at work ; but as they are only partly organised, no control can be exercised over those who are not organised. T. Bowick, employing blacksmith, Toronto, thought it was a benefit to him that his employés were members of a labor organisation, because they keep straighter when they belong to a society of some kind. J. Gaskin, forwarder, Kingston, was of opinion that it was not necessary to have an organised body to place every man on a par. Some men were better than others, and he believed in every man being paid according to his worth. On being asked if a man connected with organised labor came to him for employment would he give him work, he replied that he was not prepared to answer a question of that kind. J. Firstbrook, box-manufacturer, Toronto, testified that his firm were at first favorably impressed with the Knights of Labor organisation and its objects, as set forth in the constitution and by-laws, and had indirectly encouraged the employés to become members. The experience of his firm afterwards was not favorable to that view ; in fact their experience was that organised labor was organised tyranny. J. J. Franklin, superintendent Toronto street railway, testified that before securing work from the company men had to sign a paper pledging themselves that they will not join any labor organisation while in the employ of the company. He said the company had no objection to men belonging to anything but labor organisations ;

they do not employ men belonging to labor bodies. W. R. James, foreman printer, St. Catharines, stated that the effect of organisation in that section was to raise the wages of the working people, and at the same time to reduce the number of working hours. Labor organisations do not teach anything which would tend to demoralise the people, or which would tend in the direction of hostility to employers. R. Meek, journalist, Kingston, thought the effect of organised labor was beneficial to the community. He thought the Knights of Labor corrected grievances that would never have been corrected but for the efforts of that organisation. J. A. Rose, cigar-manufacturer, London, said women were not "black-listed," because they do not go on strike, nor do they get drunk. He thought that if a man were left to himself he would listen to reason, but the union will not let him do so. He held that every society should frame its own laws, and should not allow itself to be run by a union at the other end of the country, because what will suit one part of the country will not suit another. A. Simpson, shoemaker, Petrolia, as one who had devoted some attention to labor organisation, said that the only resort labor had before labor organisations were established was to strike; organisation tends to teach the workingman not to strike. W. Willson, manager of the Kingston Cotton Co., testified as to the existence of an association of cotton mill owners in Canada, and that this association regulated the prices of cotton. He said that if a member of the association sold cotton under the rate fixed, he is subject to a fine. He believed the combination to be a very reasonable one.

THE PURCHASING POWER OF WAGES.—The evidence upon this subject tendered the Commission was not very extensive, nor did it partake much of detail in elaboration. Of the witnesses examined the majority of workingmen were fully satisfied that the purchasing power of a dollar was not at the time equal to that of five or ten years before; others of those giving testimony, who were manufacturers and employers, were just as emphatic in asserting that a dollar to-day possessed a much greater purchasing power than did a like sum ten or more years ago; while another witness believed that the trouble lay rather in the great decrease of employment, thereby reducing the purchasing ability of wage-earners, than in the decrease of the dollar's purchasing power. The following evidence embody these views: A machinist, Toronto, did not wish his name made public, as he saw no use in leaving himself open to the condemnation of his employers, and thereby endangering his living. He could live cheaper in England than in Canada; money went a great deal farther in the former country. House rents are nothing there compared with here, and coal was very cheap there. J. Allenby, tailor, London, testified that from his personal knowledge and experience the purchasing power of a dollar is not so much by half as it was eight years ago. Eight years ago he was getting $15 per week, and now he was only getting $10, although in fact a little better tradesman. W. H. Anderson, manufacturer of carriage wood-work, St. Thomas, could not say as to whether the purchasing power of wages was as great at the time he was giving evidence as it was five years ago in St. Thomas. B. W. Barton, harnessmaker, Toronto, was of opinion that the purchasing power of money was greater in England than in Canada; rent was cheaper. In some of the small towns, where a decent wage may be had, a nice little house may be rented at from three shillings and sixpence to four shillings a week, and everything else equally cheap. J. Falconer, carpenter, Toronto, said that taking one thing with another, he thought he could live as reasonably and as cheaply, barring rent, now as he could twelve years ago. E. Gurney, foundryman, Toronto, so far as he thought of it, believed the purchasing power of a dollar was very much greater now than it was thirty years ago. W. Harty, managing director of the Canadian Locomotive and Engine Co., Kingston, was not able to speak from personal experience of the value of a dollar, but judging from what he had heard and read of the prices of commodities forming the necessaries of life at that time, the purchasing power of a dollar would be greater then than it would be now. J. Hewitt, rating clerk in the city water works, Toronto, believed that the purchasing power of a dollar to-day was as great as it was ten years ago or even greater in some lines. But he did not believe that the power of the working classes to purchase those necessaries was as great as it was ten years ago.

He believed, also, that the volume of employment given for the production of certain results has very greatly decreased in the manual labor line, and that if there is an offer of cheap provisions for a dollar, and there is not a dollar with which to buy them, the offer would be of no advantage. J. Stephenson, moulder, Hamilton, in making a statement on behalf of the iron-moulders' union of that city, said there was not much change in the purchasing power of wages, but there were less wages wherewith to purchase. J. Simpson, shoemaker, Petrolia, testified that to the best of his knowledge the purchasing power of a dollar did not go as far now as it did five years ago. W. J. Vale, printer, Hamilton, said the purchasing power of a dollar was not as great in Hamilton as it was ten years before, while the cost of living had increased. J. Volume, shoemaker, Kingston, thought the purchasing power of a dollar was about the same during the past five years, except for house rent.

RENTS OF WORKINGMEN'S HOUSES.—That rents are steadily increasing for dwellings suitable for the mechanic and laborer in all directions, and in cities especially, to such an extent that the ratio of increase is considerably out of proportion to the increase, if any, believed to have taken place in wages within the last ten years, seems to be the one fact emphasised by the evidence tendered the Commission respecting rents of workingmen's houses. A. Blue, secretary Ontario Bureau of Industries, testified that he had a good deal of experience as to the collections of labor statistics in Ontario since 1883. This justified him in stating that about one-fifth of an average workingman's wages goes for rent. J. W. Blake, painter, Chatham, said that the last house he rented contained a front room, dining room, kitchen, and two bedrooms up stairs, as well as a closet and pantry, coupled with woodshed, cistern and water. He paid $4 per month. E. Fitzthomas, Chatham, was of opinion that the average rental for a house of five rooms, kitchen and woodshed, would be about $5 or $6 per month. P. Dane, weaver, Cornwall, had seven in family and lived in a five-roomed house at a monthly rental of $6, and he did not pay any taxes thereon. S. Shoefelt, carder, Cornwall, thought the majority of working people in that town lived in tenement houses at rents varying from $5 to $7 per month. A. Henderson, carpenter, Detroit, testified that a nice cottage could be rented in Detroit for from $7 to $10 per month, about one mile and a quarter from the centre of the city. G. Harper, compositor, Hamilton stated that artisans' houses in that city rent at from $6 to $10 per month. J. Holmes, painter, Hamilton, said when he kept house in Brookyln, N. Y., he paid $14 a month as rent, his wages being $3.25 per day. He could get a better house in Hamilton for that money, but he could not begin to pay $14 a month out of the wages he was getting in the last named city. J. Stephenson, moulder, Hamilton, speaking on behalf of the union and in reply to one of the questions submitted to the union by the Commission, said that as regards rent there was not much change; rents were slightly higher, but there was better accommodation for the money. J. Litton, driller in locomotive works, Kingston, testified that house-rent in that city had increased about 20 per cent during the past five years. J. Allenby, tailor, London, said that about $10 a month was a usual rental of houses occupied by mechanics in that city. Wm. Bell, relief and health inspector, London, said the average rent of a mechanic's house in London was between $5 and $7 per month, and that there were not enough of that class of houses erected in that city. J. Sullivan, brick-layer, London, did not live in a rented house, but thought a nice cottage could be rented in that city at from $8 to $10 per month F. Farrell, printer, Ottawa, testified that a house of six rooms in that city, at say ten or fifteen minutes walk from the post office, would rent at an average of $9 per month. J. Sherwood, sawyer, Ottawa, said that a house in New Edinburgh ward suitable for a workingman such as he was would cost about $10 per month. A. Short, printer, Ottawa, testified that the rise in wages had not been equal to the rise in rents during the past five years. He was then paying $8 a month for a house which, when he first came to Ottawa, he could have rented for about $4. T. McKetrick, oil producer, Petrolia, said that laboring men pay from $6 per month upwards for houses, but he did not think they could afford to pay $12 per month for eight-roomed houses in pretty good localities. A. Simpson, shoemaker, Petrolia, stated that a mechanic would pay about $10 a month for a six-roomed house fit to live in, in a convenient locality in Petrolia. W. H. Anderson, manufacturer, St. Thomas, said a man with a family of from three to five would pay from $5 to $8 per month for a house in a respectable locality in St. Thomas. He thought $5 a month would be the lowest rent paid. J. Waddell, foreman, St. Thomas, thought that seven or eight-roomed houses in that city rented at from $8 to $10 a month—comfortable houses. T. Beckett, journeyman carriage builder, Toronto, testified that rents were higher in Detroit than in Toronto. He thought he could get as good a house in Toronto for $18 per month as he could in Detroit for $25. H. T. Benson, laborer, Toronto, said he thought members of the Builders Laborers' Union paid from $6 to $10 per month in rent. He believed the average would be about $8 a month. D. Black, moulder, Toronto, thought rents had increased about twenty five per cent. within the past few years, and that the classes of houses built in Toronto have too high rents for workingmen. J. Boyle, iron-founder, Toronto, said that house-rent in that city had gone up to such an extent, he did not know where the mechanic was shortly going to live, unless all live together. J. Callan, carpenter, Seaton village, Toronto, said that rents had decidedly increased in Toronto during the last ten years; they had gone up like a balloon. R. Dennis, builder and contractor, Toronto, testified that the house rent was certainly dearer in Toronto than it had been in the past; the tendency was in the direction of higher rents. W. J. McFarlane, carriage builder, Toronto, said the same sized house in that city had increased $4 per month in rent during the past six years; a house worth $9 a month four years ago would be worth $13 a month now. C. Pearson, real estate agent, Toronto, said it was possible for a workingman to get a house at nearly the same rent as ten years ago, but to do that he had to go to the outskirts of the city, and that necessitated the expenditure of car fare so that what he gained in rental goes in the mode of travel. He said there had been an increase of from 30 to 40 per cent in house rent in the centres in which workingmen live during the past ten years, and in these districts they are pretty much the same class of houses now as then. P. Thompson, journalist, Toronto, speaking for himself, said that when he first went into house-keeping in that city, fourteen or fifteen years ago, he could get a house that suited him; a small comfortable house, in a nice locality, within reasonable distance of his business, say half or three quarters of a mile, for $14 a month. To get such a house now he would have to pay $18 or $19 a month, and go twice or three times as far out. That is the tendency of the increase in the city, and it bears with considerable hardship upon a good many of those who have only fixed incomes and salaries, as it does also upon those whose incomes or salaries are not increased to any considerable extent by labor movements. R. Kerr, foundryman, Windsor, said that a house in Windsor, of five rooms, would rent for $6 per month, and larger houses in proportion. Like houses in Detroit, he was informed, rented for nearly double that amount per month. E. H. Foster, carpenter, Windsor, was of opinion that rents in Windsor ranged from $8 to $40 per month, and that the rents of cottages varied from $10 to $12 per month.

Sailors and Shipping.— While this subject is one that, perhaps, has not attracted so much public attention as has others entering to a greater extent into the everyday life of those who follow mechanical or manual labor as a means of earning a livelihood, yet through the perseverance of those representing seamen in their labor associations in Canada, and more especially in Ontario, the hardships endured by sailors on the lakes, as well as the great necessity of law looking to and securing greater protection of life, has been forced into more or less prominence in the Federal Parliament of Canada within the last few years. The evidence submitted to the Commission clearly outlines the grievances complained of on the part of the sailors, and was not off-set to any extent by contra evidence on the part of owners, only one giving testimony. Neither does there appear any vital point of difference between those examined as to what should be the remedy in the premises—a law broad enough in its provisions to provide for the periodical and systematic, as well as thorough, inspection of hulls, gear and rigging; the proper numerical manning of vessels and barges with competent crews, the establishment of a definite loadline, as well as a rigid enforcement of any regulation requiring that masters and mates hold certificates of competency in their respective capacities. Incidental to such a law, and of more or less minor importance, are some other matters referred to during the examination of the witnesses. J. Buckley, president of the Seamen's union, and a seaman, testified that he resided in Detroit, but that he spoke of vessels owned or operated on both sides of the line. The tenor of his statement was that vessels do not carry crews enough to handle them, and that they do not have places fit for men to sleep in. The crews generally sleep down below, while the bed-clothes, which are put in in the spring, are never taken out during the season; they are left all winter and not one in ten have these clothes washed in the following spring. The vessels are loaded to the tops and all that is possible put into them. There was a law in the United States governing the loading of vessels, but it was not enforced; nor is such a law enforced in Canada in respect of deck loads. There was a Canadian law respecting the inspection of the hulls of ships, and he thought, but did not know, that it was enforced. In Canada, but not in the United States, masters and mates are obliged to pass an examination as to competency. There was no law limiting or guiding the way of loading sailing vessels; for instance, a vessel of 275 tons register is often loaded with from 650 to 700 tons. Vessels very often have foundered through being overloaded; that is, vessels sailing on lakes Michigan, Huron, Superior, Erie and Ontario. The witness here enumerated a number of vessels which, he asserted, had foundered on the lakes mentioned by reason of being overloaded. Continuing, Mr. Buckley said that vessels registering from 300 to 350 tons should have a crew of four competent seamen—captain, two mates and an ordinary seaman, besides a cook. Vessels carrying a register of 700 or 800 tons should have at least eight or more competent men before the mast, but none of them carry that number. All who ship as sailors are not competent men. Employers will not pay the salaries to get sailors, and so they ship anybody they can get for deck hands—farmers, for instance, or anybody who will go and take the job. Such men cannot handle a vessel in really bad weather; if caught out in a gale they cannot handle the canvas. As there is no law compelling the inspection of the gear of vessels they are also very often lost because of defective canvas and bad halyards. All men who ship as sailors should be able to steer a vessel by the compass, but about one-third of those employed on lake sailing vessels are unable to do this. Two-thirds of those employed on steamboats and barges could not steer by compass. Canadian vessels going up on the lake shore and loading square timber work their men for eighteen and sometimes twenty hours at a time loading the timber. Then they have to get away and sometimes they are caught on a lee shore in the night with the result that men are often kept out forty-eight to fifty hours in bad weather without any rest. He said that vessels have at times come through the lakes with deck loads of lumber of eight, ten, twelve and fifteen feet in height. T. Mulhall, seaman, Detroit, testified that he had been a sailor on the lakes for thirty-eight years, and had much experience as to the vessels sailing them and of the way in which they are handled. He had also sailed to China, Australia, France, and on the Mediterranean and Black seas. He considered that under all the circumstances a man should be as thorough a sailor to take charge on the lakes as he should be on a foreign voyage, if not more so. He considered that short voyages around shore are always the most dangerous. "Yes, and another thing, on a short voyage they will work you almost to death if you are in at port. And perhaps they will get under way after sixteen or seventeen hours and sometimes twenty hours; they will get under way at night, and I have often been a mate on such a vessel and would find every man asleep after such hours. I could not blame them, for I have had to move around myself so that I would not go to sleep." E. Kehoe, seaman, Detroit, said he alluded to both the United States and Canada in speaking of barges on the lakes. He testified that there are a good many barges which are not capable of taking care of themselves on account of having only one mast and one sail. All vessels should have at least two masts and two sails, a foresail and mainsail, so as to be able to take care of themselves. These boats often go out in a tow, they break loose in gales and the wind and the sea get so heavy that they cannot be picked up. In such cases the vessels cannot help themselves as they cannot navigate. He said that all captains on the lakes were not able to read the charts; there were lots of them who could not read their own names. Some vessels did not carry charts even; the vessel in which the witness was employed during the fall did not carry one, and having got out on lake Huron the captain did not know where he was. John T. Carey, secretary of the Seamen's Assembly Knights of Labor of Canada and chief of its executive committee, St. Catharines, stated that the headquarters for sailors of the order in Canada was the Welland canal. The standard for membership in that assembly was that a man must be able to reef, steer, splice, wind and unwind canvas, and shape a boom or spar if necessary. Speaking of the wants of sailors the witness said: "In the first place they want a better inspection of vessels, so that they will be more seaworthy, and the danger of loosing their lives less. Vessels at the present time, as a rule, are over-loaded and under-manned." He considered a full complement for a vessel, say 400 tons, old canal size, to be five men before the mast, one or two mates, a captain and a cook. In times gone by, ten or twelve years ago, vessels which are now only carrying three men before the mast, a boy and one mate, at that time carried five or six men and two mates, and also a boy. The cook is not included as one of a crew, as the cook may be a woman. When a vessel is refused classification her general condition is bad. He had in his mind a vessel which had been refused classification and had been lost within the last season or two. He believed that if a law were placed upon the statute book making it compulsory to examine all vessels, irrespective of insurance, it would be a benefit not only to the sailors but to the owners as well. His reason for so believing was that those vessels which have not class and cannot insure will cut freights on vessels which are classed. They carry a poorer class of men, and consequently the running expenses for keeping a vessel in trim, and the wages, are less. This gives a man who owns a poor vessel a better chance to cut rates than the man who owns a good vessel. He was satisfied the ground tackle of a ship should be examined as well as the hull. He himself was on a vessel which went ashore on lake Michigan through defective ground gearing. On that occasion eleven persons were drowned, while only another and himself were saved. He had seen unseaworthy vessels leave the Welland canal. Being asked what course he pursued on such occasions, he replied, "We never take any course, only if we had any men on board, and we had their lives insured in our organisation, or they were in our sick benefit arrangement, the only thing we could do that we know of at the present time is to order them ashore, and if they did not go then we would cancel their insurance. They know that is our law if a vessel is unseaworthy." He had refused last summer to allow men belonging to his association to go on board a vessel because of her unseaworthiness. He had seen a vessel leave St. Catharines last summer, out of the dry-dock, with her seams covered with canvas. Being asked why they put canvas upon her, Mr. Carey replied that, "It must be to cover up seams which they could not caulk. The seams were so rotten they would not hold the oakum, and they tacked canvas on with shingle nails, I think, and covered the hull underneath the canvas with paint and painted the canvas on the outside. She had several strips, one reaching from the starboard to the aft-plate of the fore-rigging. On the starboard bow there were four or five patches on the bow. I saw only one side. When I went aboard she had no hatches but pine ones made of rough boards, and in pumping her out they had a trough running over the sides so that water would not go on the deck and go into the hold again. She went from here, I think, to Detroit. I understand she was going to Cleveland to load coal. Some of the members of our organisation were working at her in the dry-dock, and when I went aboard to see her in climbing over the rail I was afraid it would fall into the dry-dock—the stanchions were so rotten I could have shoved them over; I could move one six or eight inches without any effort, just by pushing it. I believe some of our men went on her, although I told them if they did sick and insurance benefits would be refused them. That vessel never came back again to St. Catharines to my knowledge." The witness thought that, say from Kingston up, there were between 15,000 and 20,000 people, Canadians and Americans, employed in the business. In many instances crews have to work twenty-four hours at a time, and always sixteen at least. He had been "black-listed" some ten years ago, and was not sure but that it lasted yet as against him, for taking too active a part in labor organising as well as in determining wages and demanding them. Being requested to make suggestions as to the seaworthiness of ships, Mr. Carey added: "Well, I feel satisfied that if a law were enacted compelling vessels to be seaworthy, and not load above a certain mark, and obliged to carry a certain number of men, it would benefit not only the sailors but the men who employ them as well, as property would be safe in the hands of men when there were enough of them to handle it in case of danger. I might state also that the steamboats are manned just as badly as the vessels are. They have a larger number of men, but the quality is not there. I don't believe one-half of the men on steamboats this year—I don't believe one-third of them—outside of the captains and mates, are capable of lowering and launching a life-boat or yawl-boat." Peter Nelson, sailor, St. Catharines, heard the evidence of Mr. Carey and agreed with it, except in that it was too easy in many particulars. P. Gallagher, sailor, St. Catharines, while agreeing with Mr. Carey's evidence, added that he did not think there was a vessel going out of the Welland canal which was seaworthy; there may be one or two, but not more. The principal defects of the vessels which he considered unseaworthy were in the matter of hull, gear, spars and canvas. He had run lots of vessels to the frames of which planks could not be fastened, because the frames would not hold them, and many of the vessels in the canal were in that condition, and they are in use every season. Robert Donnelly, ship-carpenter, St. Catharines, testified that there had been vessels passing through the canal which he considered unseaworthy, but a good many had been done away with—lost in the winds and storms last fall. He did not consider the present system of inspection of vessels a satisfactory test. Capt. Thomas Donnelly, mariner, Kingston, had been master of vessels for eleven years. He knew of considerable complaint as to the condition of sailing craft on the lake waters, but he did not know of any sailing vessel or propeller on those lakes that was not staunch enough for the business; but he could not say the same as to barges, which were vessels which became too old to run, and that is one source of trouble. The barges do not have sail enough put on them, and they are insufficiently manned. He believed there was no inspector of the rigging or spars of a vessel. A vessel was navigated entirely by the rigging and sails. When a barge is taken hold of it is different. So long as the tow-line holds she is all right, but when the tow-line breaks she is in the position of a vessel, and then there is found a necessity for proper rigging and sails and she has not got them. Barges should have at least three jibs and four mainsails. The witness held there was not much danger in carrying excessive deck-loads on the lakes. He was sorry to say that no matter what may be the condition of a vessel men could be had to run her, and thought the Government would have to take some action in that matter. He also thought it very necessary that sailing vessels should carry life-preservers, and cited instances of the loss of vessels where the lives of the crews would very likely have been saved had life-preservers been available. His experience was that legislation in the shipping interests in Canada has been nothing as long as he could remember. In answer to the question, "Do you not think the Government should appoint a sailor as inspector of hulls, rigging, and all the standing gear of a vessel?" Captain Donnelly replied: "I do, and when they do appoint an inspector they will not appoint a man by competitive examination, but some fellow who has a good deal of political influence and who will not be in a position to speak for us as he should do in the matter. I think I can prove that by the positions that are held on the lakes at present by similar men." In regretting that the Dominion Parliament had not met the United States in a reciprocal spirit in the matter of rendering aid to wrecked or disabled vessels in their respective waters, he said that when a measure with that end in view was before a committee of the House of Commons it met opposition from interested members of that committee, and the bill was not passed. Representatives of those opposing that measure in Kingston went to Ottawa for the purpose of securing its defeat, and one of them said, "I will take off my coat and lick the whole committee before I will have this thing go through." J. Fleming, sailor, Kingston, thought there was too much latitude allowed owners of vessels in the matter of putting them on the lakes in an unseaworthy condition. He said that when going through the Welland canal there is so much bumping against the locks that the vessels become strained forward, and that makes them leak when they come out of the canal, and he could therefore say that two-thirds of the vessels that go through that canal are not fit to live in, in so far as their forecastles are concerned, because a man cannot keep a dry stitch of clothing in them. T. A. Green, master mariner, Hamilton, had commanded sailing vessels as well as steam vessels. He was sorry to say that vessels often go to sea on the lakes with improper rigging. W. McIlwaine, St. Catharines, testified that he was inspector of hulls for the Canadian Lloyds, and was employed by the Government to examine masters and mates. He said there were several Canadian vessels which have no class. Vessels are graded as follows: A 1 with a star is highest, A 1 next, A 2 and A 2½ are next, while B 1½ is the lowest class that can insure. A vessel not fit to be classed B 1½ would not be seaworthy. He did not think inland vessels were sufficiently manned, and he claimed that barges should have as many and as good men as if they were sailing vessels. He thought there was a sufficient number of unseaworthy vessels afloat to warrant the Government in prohibiting the use of this class of vessels. He said that a great many of the vessels afloat now were made unseaworthy by overloading. They are seaworthy enough to carry what they were built for, or to carry down to ten feet of water, but when they load to twelve and fourteen feet they drown them. The loss of some vessels he spoke of he attributed to unseaworthiness and overloading. As a remedy against overloading he would have the principle of the Plimsoll loadline, especially from the last of September until the close of navigation.

SANITARY CONDITION AND VENTILATION OF WORKSHOPS AND DWELLINGS.—Although both the sanitary conditions and the ventilation of factories, workshops and the dwellings of workingmen have been already referred to incidentally in the evidence of several witnesses, yet the following digest of evidence bearing directly on those subjects will be found valuable for several reasons. In the first place it points to the fact that very much remains to be done, and mainly through legislative enactment and machinery consequent upon it, in providing more general sanitation than prevails at present; and secondly because the evidence of such a well-known sanitarian as Dr. Oldright cannot fail in impressing itself on the minds of all who may read it. The existence of a Factories' Act has become a factor also in this matter evidently. R. Gossett, painter, Chatham, testified that at that time he worked in a carriage factory. The water-closets were not as they should be; the water was not what it should be, nor was the ventilation right. The paint-shop is closed up all night, and in the morning the atmosphere is fit to almost choke a man. There is a steam pipe in the paint-shop to keep it all right in cold weather, and when a man enters the shop the atmosphere is enough to take away his breath. The men complained among themselves, but never to the employer, as he was well aware of the fact himself. He (the witness) had never yet seen the water-closets cleaned out. J. Dixon, carriage-builder, Toronto, said there were water closets in his shop, but he was afraid they were not very good, as the street sewer was only 8½ feet below the street surface, and that was not sufficient drainage even for a cottage. W. J. McFarlane, carriage-maker, Toronto, testified that as a general rule the sanitary conditions of the carriage factories in Toronto were not good. S. M. Hodgins, cigar-maker, Stratford, in speaking of London said the sanitary arrangements in the cigar factories in that city were very good in every one he had worked in. S. Oberndorfer, cigar-manufacturer, Kingston, testified that the factories inspector had visited his factory, had made enquiries of the men and had expressed himself as well satisfied with the condition of the premises. R. Somerville, cooper, Windsor, said the sanitary condition of the shop he worked in was pretty good, and as to the ventilation there was lots of it, as the snow may be seen drifting in. As to this, complaints had been made, but the employers did not want to put repairs on. S. Shoefelt, cotton-carder, Cornwall, in describing the then existing water-closet system of the Canada cotton mill in that town, said it was possible to have the closets for males and for females so constructed that they could be totally separated, and with no connections whatever. A. W. Porter (McCormick biscuit manufactory), London, testified that the Ontario factories inspector had visited their establishment, he spoke to a few of the employés in passing through, and he seemed to be very well pleased as to the sanitary and other conditions. J. Balharrie, baker, Ottawa, said the shop he worked in was well ventilated, while H. Barrell of the same place testified that to his knowledge the sanitary conditions of the bake-shops in Ottawa were not good. A. Bennett, baker, Kingston, in reply to a question as to the sanitary condition of bake-shops in Kingston, replied, "You had better put that question to the health officer," but, being pressed for his own view, he said "Honestly, they are very poor." S. Robinson, baker, Kingston, thought the bake-shops should be seen to; they were not fit for a man to work in—that is, the majority of them. W. J. Campbell, boiler-maker, Ottawa, thought the sanitary condition of his shop was very good. They tried to keep it good for their own sakes. A. Miller, trimmer (shoe factory), Hamilton, testified that the sanitary condition of the factory in which he worked was first-class; the water-closets are off from the main building. He could not say whether or not the factories inspector had visited the establishment. R. C. Winlow (manager, J. D. King & Co., manufacturers of boots and shoes), Toronto, said that the factories inspector had expressed himself as satisfied with the condition of the factory. J. H. Lumsden, printer, Toronto, stated that in one or two paper box factories he was in the sanitary conditions were anything but good, the conveniences for the sexes were separate to the extent of being alongside of one another. J. Falconer, carpenter, Toronto, testified that the sanitary conditions and arrangements in the different shops and factories he had worked in in Toronto seemed to be all right. E. H. Foster, carpenter, Windsor, said that while the sanitary condition of the shop he worked in was good, yet on the sand-papering machine there was no blower or anything to take the dust away, and as a consequence the men had to inhale it. He, himself, had been sick three or four days after running this machine, and a doctor had told him that it was very hard on the lungs. In so far as he was aware the factories inspector had not visited the shop. A. G. Watson, secretary of the Canada Cotton Manufacturing Co., Cornwall, while stating that he was not personally cognizant of the condition of the water-closets as to separate compartments for males and females, said that in the interests of morality it would be better if the closets were separated to a respectable distance, so as to avoid annoyance to the female employés. A cotton mill operative, Cornwall, testified that the water-closets in the Stormont mill were not always in a good sanitary condition, but there were separate closets for the sexes, and precautions were taken to prevent the annoyance of females. P. Dane, weaver, Cornwall, testified as his opinion that the sanitary conditions of the houses occupied by mechanics generally were good, so long as the houses were kept right. As to the Stormont cotton mill, the water and light were bad, while the water-closet was not in a suitable place, besides being only about three feet square. J. Bell, secretary-treasurer Ontario cotton mill, Hamilton, testified that the mill was heated with steam, and that there were two sets of water-closets—one for males and the other for females—as well as drinking water and washing places on each floor of the main mill. When he visited the mill, the factories inspector did not find any fault. W. Willson, manager of the Kingston Cotton Co., in his statement, said that in a cotton mill there was a source of ventilation which is not very often noticed; that is, there are large pulleys and straps working at perhaps a speed of 2,000 feet a minute, and they give a good circulation of air, and whether the windows are open or not there is good ventilation from that source. He considered the sanitary conditions of the factory very fair, and said there were seven good water-closets—four appropriated entirely for the use of females, and three for the use of males, separate and apart from each other as respects the sexes. G. S. Hope, general wood worker, Chatham, had no reason to find fault with the sanitary conditions of the houses occupied by the working classes in that town. R. Greer, laborer, Kingston, thought there should be better sanitary conditions insisted upon for workingmen's houses—that is, in respect of the lower class of houses in Kingston. R. Meek, journalist, Kingston, thought the sanitary condition of workingmen's houses in that city might be improved; in fact, sanitation was a matter worthy of deep thought on the part of workingmen. W. Bell, health inspector, London, testified that the sanitary condition of factories and workshops in that city was very good. He got them cleaned up as fast as time permitted, and had an assistant going round all the time. J. R. Brown, factories inspector, Toronto, said that speaking generally of those visited, he found that the condition of shops was satisfactory; "well, some of them were very satisfactory, and others again were not—far from it." J. McKenna, moulder, London, in speaking of the general condition of moulding shops in that city, said they could be better drained. He said, also, that in real damp weather the floors were very wet, and that a man working in the steam is liable to attacks of rheumatism, and especially sciatic rheumatism. J. B. Murphy, moulder, London, said the greatest fault to be found with moulding shops was that everything was damp; the sand was wet and cold, and everything a man touched was cold. Moulding shops, he held, should be heated in winter, as they are too freely ventilated in the winter time. D. Black, stove-plate moulder, Toronto, testified that where stove-plate moulding was done the conditions were generally good, but other shops were not all that was to be desired. He pointed out that where casting was done at night gas and smoke came off which were very injurious, and had a very irritating effect on the lungs, so that if a man went outside after working a couple of hours he is very apt to catch cold. J. Hewton, manager of the Kingston Hosiery Co., Kingston, testified that the ventilation of their mill was good, and that the factories inspector was fairly satisfied with the sanitary condition of the establishment. Dr. W. Oldright, Professor of Hygiene at the University of Toronto, and formerly chairman of the Provincial Board of Health, after stating how the ventilation of shops where work is performed at night, as in printing offices, could be very much improved, referred to matters affecting the houses usually tenanted by workingmen, and in doing so drew attention to the fact that the Ontario Board of Health had a clause inserted in the Public Health act declaring it to be the duty of the owner of every house in the municipality to provide the occupant of the same with a sufficient supply of drinking water, and in case the occupant is not satisfied as to the wholesomeness or sufficiency of such supply, he may apply to the Board of Health department as to the same. The by-law works no hardship; if the water is good and the occupant has needlessly complained, he will have to pay the cost of the examination; if not good, the owner will have to pay, the Board of Health adjudging between the two. He submitted that it would be a good topic for enquiry, on the part of the Commission, throughout the various towns whether that clause was being respected and carried out. Speaking of workingmen's dwellings, Dr. Oldright said also that he found the bedrooms are often disproportionately small. As to water-closets, he held that the plan of making pits in the ground and allowing the contents to percolate through the soil was not a good one, as through such a pernicious system the soil becomes saturated with filth and as a consequence the wells become foul. S. Carsley, dry goods merchant, Montreal, in speaking of the experience of his firm, not only in Montreal but in other places as well—Brockville, Ottawa and Toronto in particular—where they had occasion to examine dry goods premises during the last twelve months with a view to taking them, said: "We generally found that the only water-closets were in the cellars. We have known both salesmen and saleswomen, dressmakers and milliners, all to be in the same house, all in the same employ, and in every case, without exception, we found there was only one water-closet, and that was in the cellar. These cellars, although not dark in every case, were so for the most part. In such places there were no provisions whatever to prevent the meeting of the sexes, while in every case there was only one entrance to the cellar, and that by a door under the stairway. We found that to be the case particularly in Toronto. Toronto was as bad as, if not worse than, any other place; it was as bad there as it could possibly be. In a certain house there, there was a water-closet with only one seat for all the employes; in other places they have two seats, with only a thin board partition between them. And the only provision afforded the young people for washing their hands—which has to be done very often, on account of handling very delicate material—is down past where the men go in the cellar, and usually there are no urinals for the men, except they use the water-closets." In replying to the enquiry as to what conveniences there are for the girls in dry goods stores where milliners and dressmakers are employed, he said there were none that he saw. In one case there was one building occupied by three tenants, a dry goods man and salesman, a dressmaker with a staff of young people, and a milliner and her staff; and for the whole building there was only one closet in a dark cellar. He would favor the extension of the provisions of the Factories Act so as to apply to dry goods stores, wholesale clothiers, shirt factories, and so on. He thought the suffering endured by operatives or employés in such places was just as great as the suffering endured by the operatives in factories; and that the smaller the town, the smaller the store, the more the hardship there is to endure. Being satisfied the employers would never attempt a remedy in such cases, he thought there should be legislation compelling employers to dismiss employés at certain hours, as well as obliging them to provide water-closets and other places where women and children will not be compelled to go into the cellars or use the same conveniences as the opposite sex. He would have the conveniences for males located in a different part of the building from that in which those for females were provided. He believed that the helpless classes, women and children, should be the wards of the Government, and that the Government should be responsible for them.

SICK AND DEATH BENEFITS.—The evidence regarding sick and other insurance schemes among the working classes brought out the fact that one of the leading features of the various trade organisations was the provision made in them for sickness or death. A great deal of testimony was also adduced regarding the administration of benevolent societies, such as the Foresters and Odd Fellows, but as these are not institutions specially for the working classes no cognisance need here be taken of the facts elicited concerning them. A member of the Society of Amalgamated Engineers stated that that organisation was practically a benefit society, although he did not give any particulars as to scope or method. A Hamilton moulder said that in his union $4 a week was paid as sick benefit, and $300 was given to the family in case of death. A Kingston moulder added that all these benefits were derived from the payment of the simple dues. A Hamilton nailer gave testimony regarding a rather novel plan which is the sick benefit scheme of their association: each operator holds four machines, and if a man is laid off the other men will take the machines and operate them for him so as to keep them running. A Hamilton painter belonging to a branch of the International Union described the benevolent provisions made by their organisation as follows: There is a sick benefit fund into which the union pays a certain amount, according to its dues. The sick benefit is $3 per week with doctor and attendance if required. There is a wife's death benefit of $25 to six months' members and $50 to one year members, with a death benefit of $50 on a six months' membership, and after one year's membership $100. All these benefits were derived from the ordinary fee of 40c. per month. A feature of the typographical union was stated by a Toronto witness to be a sick benefit of $25, the fund being made up by 50 cents. being paid twice a year by the members. In regard to death benefits, there was a levy on all the members of the union to cover expenses of burial. There was also an insurance branch connected with the International Union, which had a great many members in subordinate unions which paid $5,000 in case of death. A Hamilton printer added that in his union there was a death benefit of $75. The secretary of the Seaman's Assembly of Canada testified that in that organisation there was a sick benefit of $4 per week during a man's illness, and a death benefit of $50, either for burial purposes or to be given to the friends of the deceased as the case might be. A Cornwall member of the Knights of Labor stated that during the three years the organisation had been in existence in that town about $500 had been paid out to relieve distress. Several witnesses, among whom were a conductor, a locomotive engineer, an upholsterer in the car shops, a shop foreman and a discharged section man, gave testimony regarding the provident and insurance schemes of the Grand Trunk railway. The conductor stated that at the time of the amalgamation of the Great Western and Grand Trunk railways it was optional with the employés whether they would connect themselves with the society or not; but those who entered the service of the company since then were compelled to join the society and continue in it while in the employ of the line. There was a distinction between the provident and insurance schemes. In the former department 40c. per month had to be paid by those of the ordinary class, and for the hazardous class, which included conductors, firemen, brakemen, etc., the fee was 50c. per month. This society provides for medical attendance and the payment of $3 per week in the case of sickness or injury. It does not matter what the sickness is caused by, provided it is not the result of misconduct or immorality. This sick indemnity is granted for twenty-six weeks, at the end of which time the doctor examines the man as to whether or not he is incurable. If there is any likelihood of recovery he may continue another twenty-six weeks on the fund, making a year in all. Another medical examination is then held, and if the man is pronounced incurable, he is given the sum of $100 and dropped off the fund, or he may, according to one witness, continue to pay into the fund as before. It was also brought out that no one was considered on the permanent staff unless he was a member of the society. The railway company gave $10,000 a year toward the funds of the society, which practically clears it from indemnity for losses to its employés from accident, or from supporting its sick. In the matter of life insurance there are six classes, covering sums ranging from $2,000 to $250, those insured for the smallest amount paying 5c. a call, while those in the highest class paid 50c. It was optional as to what class the men belonged. It was also stated that the conductors had an insurance scheme of their own—one of which they were justly proud, as one witness put it. A railway engineer characterised the Grand Trunk insurance plan as "one that was not excelled by any in the Dominion." A worker in the London car shops thought that the men should be compelled to join the provident society, as some men would not otherwise join such society. And it is just that class of men, he went on to say, for whom subscriptions are taken up by their fellow-workmen. Formerly such a subscription had been taken up once a month in the shop, but it was found that some men had imposed on their fellow-workmen, and the company had put a stop to it. Witness stated, and his testimony was corroborated, that some dissatisfaction existed with the working of the society. Some of the men had expressed themselves to the effect that the employés had not sufficient voice in the matter, and that the fees of the society were practically managed by the authorities at Montreal.

ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES

FOR THE

PROVINCE OF ONTARIO,

1888.

PART V.—LOAN AND INVESTMENT COMPANIES.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.

TORONTO:
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1889.

CONTENTS.

PART V—LOAN AND INVESTMENT COMPANIES.

	PAGE
LETTER OF TRANSMITTAL	v
SUMMARY OF STATEMENT OF COMPANIES' AFFAIRS	1
TABLE I.—Companies reporting Statement of Affairs	2
TABLE II.—Comparative statement of Liabilities and Assets of 55 companies reporting for 1887 and 1888	4
TABLE III.—Comparative statement of dividends declared, amounts loaned during the year, amounts received from borrowers (principal and interest), and total amounts invested and secured by mortgage by the 55 companies reporting for 1887 and 1888	6
TABLE IV.—Comparative statement of amounts of deposits (received and repaid) and of debentures (issued and repaid) by the 55 companies reporting for 1887 and 1888	8
TABLE V.—Statement showing the capital stock, liabilities and assets of 64 Loan and Investment Companies in the Province of Ontario for the year 1888	10
TABLE VI.—Miscellaneous statement of the affairs of 64 Loan and Investment Companies in the Province of Ontario for the year 1888	20

SEVENTH ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES.

PART V.

To the Honorable Charles Drury, Minister of Agriculture :

Sir,—I have the honor to present herewith Part v of the seventh annual report of the Bureau of Industries, being a statement of the affairs of Loan and Investment Companies in Ontario for the year 1888.

I have the honor to be, Sir,
Your obedient servant,

A. BLUE,
Secretary.

Toronto, August 5, 1889.

PART V.

LOAN AND INVESTMENT COMPANIES.

STATEMENT OF AFFAIRS.

The number of companies whose statements are tabulated in this report is 64, being 9 more than in the previous one. The return for one other company has been received, but too late for insertion in the tables. Companies working under Dominion charters are not obliged to report to this Bureau, yet they have responded this year in every case, and we are therefore enabled to present a full statement of affairs for all companies in Ontario save one. Numerous errors occur in the returns as first made, especially under the head of "Miscellaneous," and care has been taken by correspondence and otherwise to procure the corrections. The publication of the report has been delayed by this cause, which is a sufficient one from the point of view that statistics are valuable only when they are accurate.

Tables v and vi present the statements for each of the 64 companies in detail and the totals under each head, together with comparative totals of the 55 companies reporting for 1887 and 1888. The following summary table gives the totals of items of liabilities and assets for the 64 companies in 1888, classified by the chief towns in which the companies are located :

	Hamilton.	London.	St. Thomas.	Toronto	Other places.
	$	$	$	$	$
Capital subscribed... ..	2,487,562	9,780,500	1,521,400	45,614,097	8,536,000
Liabilities to stockholders.	2,143,034	7,615,154	997,876	23,052,031	6,300,066
Liabilities to the public..	3,078.193	9,047,028	616,321	40,076,749	6,721,884
Total liabilities	5,221,227	16,662,182	1,614,197	63,128,780	13,021,950
Secured loan assets	4,947,252	15,268,966	1,547,979	55,042,571	12,235,422
Property assets	273,975	1,393,216	66,218	8,086,209	786,528
Total assets.....	5,221,227	16,662,182	1,614,197	63,128,780	13,021,950

Hamilton has 3 companies, London 10, St. Thomas 5, and Toronto 25. The strongest companies are naturally located in the chief commercial city, and although the number in Toronto is only 40 per cent. of the whole the subscribed capital of its companies is 67 per cent., while their liabilities to stockholders are 57 per cent., their liabilities to the public 67 per cent., their secured loan costs 62 per cent. and their property assets 76 per cent.

Evidence of the growth of the business of companies is shown in Tables ii, iii and iv, in which a comparison is made between the 55 companies which made returns to the Bureau for the two years 1887 and 1888. Liabilities to stockholders in those 55 companies show an increase of $984,888, and liabilities to the public $1,770,991, while the increase of secured loan assets was $2,199,501, and of property assets $556,378—making in each case a total of $2,755,879, or 3.16 per cent. The dividends declared in 1888 are larger than in 1887 by only $14,239, while the amount loaned was less than in the previous year by $112,616, and the amount received from borrowers less by $148,887. The total amount invested and secured by mortgage was increased in 1888 by $3,281,953, and while the amount of deposits received was less by $2,364,373 the amount paid out to depositors was also less by $1,095,091. The amount of debentures issued shows an increase of $1,694,660, and the amount of debentures repaid an increase of $777,577.

LOAN AND INVESTMENT COMPANIES.

TABLE NO. 1.—Companies reporting Statement of Affairs as required by Chapter 169, Section 83, *et. seq.*, R. S. O. 1887, or by provisions of Special Charters.

Name of Company.	When Organised.	President.	Manager.	Head Office.	For year ending—
Barrie Loan and Savings Company	April 14, 1881.	N. Dyment	Robert Laidlaw	Barrie	Dec. 31, 1888.
Hastings Loan and Investment Society	January, 1876.	Hon. Mackenzie Bowell	J. P. C. Phillips	Belleville	Dec. 31, 1888.
Royal Loan and Savings Company	June 1, 1876.	T. S. Shenston	R. S. Schell	Brantford	Dec. 31, 1888.
Chatham Loan and Savings Company	Sept. 28, 1881.	Archibald Bell	I. F. Gardiner	Chatham	Dec. 31, 1888.
Huron and Bruce Loan and Investment Company	June, 1885.	Joseph Williams	Horace Horton	Goderich	Dec. 31, 1888.
Guelph and Ontario Investment and Savings Society	1876.	David Stirton	George A. Somerville	Guelph	Dec. 31, 1888.
Hamilton Provident and Loan Society	Sept., 1871.	George H. Gillespie	H. D. Cameron	Hamilton	Dec. 31, 1888.
Hamilton Homestead Loan and Savings Society	Jan. 1, 1883.	James E. O'Reilly	I. A. Studdart	Hamilton	Dec. 31, 1888.
Landed Banking and Loan Company	Feb., 1877.	Matthew Leggat	Samuel Slater	Hamilton	Dec. 31, 1888.
Frontenac Loan and Investment Society	Dec., 1863.	James A. Henderson	Thomas Briggs	Kingston	Dec. 31, 1888.
Ontario Building and Savings Society	June 26, 1874.	C. V. Price	James McArthur	Kingston	Dec. 31, 1888.
Agricultural Savings and Loan Company	May, 1872.	William Glass	W. A. Lipsey	London	Dec. 31, 1888.
Canadian Savings and Loan Company	October, 1875.	James Durand	H. W. Blinn	London	May 31, 1888.
Dominion Savings and Investment Society	April, 1872.	Robert Reid	F. B. Leys	London	Dec. 31, 1888.
Empire Loan Company of Canada	April 15, 1881.	Friend R. Eccles, M.D.	George Pritchard	London	Dec. 31, 1888.
Huron and Erie Loan and Savings Company	1864.	John W. Little	George A. Somerville	London	Dec. 31, 1888.
London Loan Company of Canada	1877.	Thomas Kent	Malcolm J. Kent	London	Dec. 31, 1888.
London Stock Company of Ontario	1884.		M. J. Kent	London	Dec. 31, 1888.
Ontario Investment Association	April, 1880.	Daniel Macfie	Alfred A. Booker	London	Dec. 31, 1888.
Ontario Loan and Debenture Company	October, 1870.	Joseph Jeffery	William F. Bullen	London	Dec. 31, 1888.
Royal Standard Loan Company of Canada	August, 1877.	C. N. Spencer	D. McMillan	London	Dec. 31, 1888.
Orangeville Building and Loan Association	1873.	James S. Fead	Francis Irwin	Orangeville	Dec. 31, 1888.
Ontario Loan and Savings Company	March, 1873.	W. F. Cowan	T. H. McMillan	Oshawa	Dec. 31, 1888.
Civil Service Building and Savings Society	1866.	Henry Hartney	J. M. Courtney	Ottawa	Dec. 31, 1888.
Metropolitan Loan and Savings Company	August, 1870.	H. O. Noel	C. R. Cunningham	Ottawa	Dec. 31, 1888.
Central Canada Loan and Savings Company	April 1, 1884.	George A. Cox	George A. Cox	Peterborough	Dec. 31, 1888.
Peterboro' Real Estate Investment Company	April, 1878.	Richard Hall	George A. Cox	Peterborough	Dec. 31, 1888.
Crown Savings and Loan Company	Jan. 30, 1882.	John H. Fairbank	John Fraser	Petrolea	Dec. 31, 1888.
Midland Loan and Savings Company	1873.	John Mulligan	George M. Furby	Port Hope	Dec. 31, 1888.
Security Loan and Savings Company	March 15, 1870.	Thomas R. Merritt	A. M. Macrae	St. Catharines	Dec. 31, 1888.
Elgin Loan and Savings Company	May 1, 1879.	Edward Miller	George Rowley	St. Thomas	Dec. 31, 1888.
Southern Loan and Savings Company	1870.	Samuel Eccles	A. J. Allworth	St. Thomas	Dec. 31, 1888.
Southwestern Farmers' and Mechanics' Savings and Loan Society	Feb., 1875.	E. W. Gustin	George Suffel	St. Thomas	Dec. 31, 1888.

Star Loan Company	Aug. 23, 1881.	George E. Casey, M.P.	D. M. Tait	St. Thomas	Feb. 28, 1889.
St. Thomas Loan Company	Aug. 4, 1887.	George Scott	Alexander E. Wallace	St. Thomas	Aug. 4, 1888.
Huron and Lambton Loan and Savings Company	Nov., 1877.	Hon. T. B. Pardee	Michael Fleming	Sarnia	Dec. 31, 1888.
Lambton Loan and Investment Company	1844.	Charles Mackenzie	Robert S. Gurd	Sarnia	June 30, 1888.
British Mortgage Loan Company	October, 1877.	Andrew Monteith	William Buckingham	Stratford	Dec. 31, 1888.
Bristol and West of England Canadian Land Mortgage and Investment Company	March 25, 1878.	T. S. Stayner Sir George W. Edwards	William Kersteman William Smith & Co.	Toronto Bristol, Eng.	Dec. 31, 1888.
British Canadian Loan and Investment Company	July 1, 1877.	A. H. Campbell	R. H. Tomlinson	Toronto	Dec. 31, 1888.
Building and Loan Association	March 1, 1870.	Larratt W. Smith	Walter Gillespie	Toronto	Dec. 31, 1888.
Canadian Homestead Loan and Savings Association	Sept., 1886.	Ashley R. Riches	A. J. Pattison	Toronto	Sept. 29, 1888.
Canada Landed Credit Company	1858.	John L. Blaikie	David McGee	Toronto	Dec. 31, 1888.
Canada Permanent Loan and Savings Company	1855.	J. Herbert Mason	J. Herbert Mason	Toronto	Dec. 31, 1888.
Dovercourt Land, Building and Savings Company	Dec. 16, 1885.	James Brandon	A. G. Lightbourn	Toronto	Dec. 31, 1888.
Farmers' Loan and Savings Company	October, 1871.	William Mulock, M.P.	George S. C. Bethune	Toronto	April 30, 1888.
Freehold Loan and Savings Company	May, 1859.	A. T. Fulton	Hon. S. C. Wood	Toronto	April 30, 1888.
Home Savings and Loan Company	April 25, 1877.	Hon. Frank Smith	James Mason	Toronto	Dec. 31, 1888.
Imperial Loan and Investment Company of Canada	Sept. 14, 1869.	Sir Alexander Campbell.	Edwin H. Kertland	Toronto	Dec. 31, 1888.
Land Security Company	Dec., 1873.	Major George Greig	W. I. Mackenzie	Toronto	Dec. 31, 1888.
London and Canadian Loan and Agency Company	Jan. 1, 1873.	Sir W. P. Howland	James F. Kirk	Toronto	Aug. 31, 1888.
London and Ontario Investment Company	May 15, 1877.	Hon. Frank Smith	Alfred M. Cosby	Toronto	June 30, 1888.
National Investment Company of Canada	1876.	John Hoskin, Q.C.	Andrew Rutherford	Toronto	Dec. 31, 1888.
North British Canadian Investment Company	Oct. 14, 1876.	Peter Sturrock	J. L. Scarth	Glasgow, Scot. Toronto	Dec. 31, 1888.
North of Scotland Canadian Mortgage Company	Dec. 17, 1875.	Jas. W. Barclay, M.P.	William Smith Osler & Hammond	Aberdeen, Scot. Toronto	Nov. 11, 1888.
Ontario Industrial Loan and Investment Company	Jan. 5, 1880.	James Gormley	Edmund T. Lightbourn	Toronto	Dec. 31, 1888.
People's Loan and Deposit Company	March, 1875.	William Elliot	James Watson	Toronto	Dec. 31, 1888.
Real Estate Loan Company of Canada	Dec., 1879.	T. R. Wadsworth	Benjamin Morton	Toronto	Dec. 31, 1888.
Scottish, Ontario and Manitoba Land Company	Dec. 15, 1878.	Robert Young	J. L. Scarth	Glasgow, Scot. Toronto	Dec. 31, 1888.
Toronto Land and Loan Company	May 27, 1881.	Arthur Harvey	William C. Beddome	Toronto	Aug. 31, 1888.
Trust and Loan Company of Canada	Oct. 1, 1851.	Rt. Hon. E. P. Bouverie	Fred. Fearon W. B. B. Simpson	London, Eng. Toronto	Sept. 30, 1888.
Union Loan and Savings Company	March, 1865.	Francis Richardson	William Maclean	Toronto	Dec, 31, 1888.
Western Canada Loan and Savings Company	March, 1863.	Hon. G. W. Allan	Walter S. Lee	Toronto	Dec. 31, 1888.
Oxford Permanent Loan and Savings Society	1865.	William Grey	William Grey	Woodstock	Dec. 31, 1888.

LOAN AND INVESTMENT COMPANIES.

Table No. II.—Comparative statement of Liabilities and Assets of 55 companies reporting for 1887 and 1888.

Companies.	Liabilities.				Assets.			
	To stockholders.		To the public.		Secured loans.		Property.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
	$	$	$	$	$	$	$	$
Hastings Loan, Belleville........	204,359	197,182	119,246	133,383	319,202	311,584	4,403	18,981
Royal Loan, Brantford	592,577	574,633	689,153	593,508	1,208,235	1,129,619	73,495	38,522
Chatham Loan, Chatham	87,853	73,343	191,233	175,694	251,320	226,035	27,766	23,002
Huron and Bruce, Goderich........	133,270	108,499	74,938	62,493	190,076	155,191	18,132	15,801
Guelph & Ontario, Guelph	432,916	385,148	850,786	798,156	1,206,266	1,131,522	77,436	51,782
Hamilton Provident Hamilton	1,379,198	1,362,166	2,248,173	2,154,686	3,383,865	3,243,444	243,506	273,408
Homestead Loan, Hamilton	97,051	85,613	....	....	94,368	82,467	2,683	3,146
Landed Banking, Hamilton	666,785	639,879	830,020	726,918	1,469,019	1,360,688	27,786	6,109
Frontenac Loan, Kingston........	242,377	244,691	254,111	260,992	417,433	400,898	79,055	104,785
Ontario Building, Kingston........	279,682	284,459	163,445	159,436	374,925	395,478	68,202	48,417
Agricul. Savings, London	739,705	730,529	848,340	856,380	1,514,147	1,538,927	73,898	47,982
Canadian Savings, London	858,708	843,261	817,145	864,816	1,627,935	1,694,668	47,918	13,409
Dominion Savings, London	1,030,054	1,124,615	961,177	1,105,190	1,930,299	2,139,099	60,932	90,706
Empire Loan, London	106,036	100,251	116,653	108,488	221,813	206,822	876	1,917
Huron and Erie, London	1,602,826	1,586,622	2,279,488	2,121,903	3,663,068	3,417,912	219,246	290,613
London Loan, London	692,125	681,600	547,722	594,595	1,189,043	1,229,721	50,804	46,474
Ontario Investm'nt, London	765,294	735,718	1,274,550	1,707,320	1,338,331	1,698,986	701,513	744,052
Ontario Loan, London	1,582,345	1,563,405	2,024,437	1,954,202	3,388,338	3,224,356	218,444	293,251
Royal Standard, London	198,061	194,149	177,516	200,987	355,992	381,812	19,585	13,324
Orangeville Build'g, Orangeville.. ...	22,020	21,474	1,338	69	23,253	18,611	105	2,932
Ontario Loan, Oshawa	374,512	371,416	525,306	546,150	881,027	892,416	18,791	25,150
Civil Service, Ottawa.........	44,214	76,131	....	....	41,079	48,220	3,135	27,911
Metropolitan Loan, Ottawa..........	365,095	366,402	29,810	31,652	283,921	266,903	110,984	131,151
Central Canada, Peterborough....	599.261	588,152	633,167	722,072	1,191,424	1,266,763	41,004	43,461
Crown Savings, Petrolea.........	119,098	110,305	32,179	28,139	146,460	136,195	4,817	2,249
Midland Loan, Port Hope.......	367,425	330,562	589,149	591,390	912,485	848,565	44,089	73,387
Security Loan, St. Catharines...	321,069	319,079	280,782	282,956	561,187	546,225	40,664	55,810
Elgin Loan, St. Thomas......	175,901	168,766	122,495	138,552	283,243	307,318	15,153	....
Southern Loan, St. Thomas......	464,000	463,333	279,099	250,084	713,493	693,243	29,606	20,174

LOAN AND INVESTMENT COMPANIES.

TABLE NO. II.—Comparative statement of Liabilities and Assets of 55 Companies, etc.—*Continued.*

Companies.	Liabilities.				Assets.			
	To stockholders.		To the public.		Secured loans.		Property.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
	$	$	$	$	$	$	$	$
S. Western Farmers' St. Thomas......	149,367	147,912	99,309	99,168	236,892	241,984	11,784	5,096
Star Loan, St. Thomas......	171,666	158,736	115,418	101,199	281,211	256,013	5,873	3,922
Huron & Lambton, Sarnia	374,783	374,456	272,462	247,357	644,296	621,813	2,949	....
Lambton Loan, Sarnia	601,391	527,584	644,523	661,715	1,161,557	1,175,635	84,357	13,664
British Mortgage, Stratford...... .	357,282	347,956	340,415	348,302	695,153	696,258	2,544	....
Bristol & W. of Eng. Toronto	154,135	149,122	1,081,914	1,072,789	1,109,327	1,138,425	126,722	83,486
Building & Loan, Toronto	910,840	904,853	784,665	825,954	1,496,540	1,525,849	198,965	204,958
Canada Landed, Toronto	872,088	858,492	1,426,669	1,382,181	2,182,801	2,105,723	115,956	134,950
Canada Permanent, Toronto	4,071,305	3,732,548	6,515,314	5,822,558	10,027,868	9,062,476	558,751	492,630
Dovercourt Land, Toronto.........	83,240	79,027	39,538	50,179	84,003	99,870	38,775	29,336
Farmers' Loan, Toronto	745,420	739,957	884,665	796,904	1,582,753	1,506,856	47,332	30,005
Freehold Loan, Toronto	1,867,642	1,853,028	3,526,212	3,162,963	5,084,889	4,893,539	308,965	122,452
Home Savings, Toronto	265,315	251,477	1,552,817	1,626,412	1,648,362	1,654,433	169,770	223,456
Imperial Loan, Toronto	760,119	753,423	1,045,894	970,271	1,776,193	1,690,064	29,820	33,630
Land Security, Toronto	918,859	725,057	789,211	529,134	792,276	553,768	915,794	700,423
London & Canadian, Toronto	1,113,723	1,108,058	3,490,887	3,500,823	3,659,269	3,937,404	945,341	671,477
National Investm'nt Toronto	473,934	470,815	1,092,135	985,017	1,474,487	1,338,843	91,582	116,989
North of Scotland, Toronto	916,806	906,896	2,540,880	2,472,725	3,158,877	3,066,121	298,809	313,500
Ontario Industrial, Toronto	451,592	409,109	218,680	223,546	207,070	171,988	463,202	460,667
People's Loan, Toronto	732,314	719,609	562,347	574,018	1,244,923	1,210,805	49,738	82,822
Real Estate Loan, Toronto	483,187	487,491	284	....	235,669	283,550	247,802	203,941
Toronto Land, Toronto	74,575	61,877	28,841	28,949	57,777	61,081	45,639	29,745
Trust and Loan, Toronto.........	2,366,975	2,365,913	3,719,984	3,654,697	5,081,516	4,930,211	1,005,443	1,090,399
Union Loan, Toronto	921,219	915,060	922,488	830,722	1,657,321	1,649,860	186,386	95,922
Western Canada, Toronto	2,247,733	2,267,409	4,196,486	3,934,664	6,149,741	5,825,395	294,478	376,678
Oxford Permanent, Woodstock	266,124	263,315	94,599	104,646	323,287	344,152	37,436	23,809
Totals	36,895,451	35,910,563	52,948,095	51,177,104	81,235,305	79,035,801	8,608,241	8,051,863

LOAN AND INVESTMENT COMPANIES.

TABLE NO. III.—Comparative statement of dividends declared, amounts loaned during the year, amounts received from borrowers (principal and interest), and total amounts invested and secured by mortgage by the 55 companies reporting for 1887 and 1888.

Companies.	Dividend declared.		Loaned during the year.		Received from borrowers.		Total invested and secured by mortgage.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
	$	$	$	$	$	$	$	$
Hastings Loan, Belleville........	11,814	12,331	40,571	71,312	54,724	73,316	315,792	305,826
Royal Loan, Brantford	39,263	36,134	214,873	200,638	201,102	251,525	1,201,365	1,124,367
Chatham Loan, Chatham	5,379	4,472	47,544	74,257	38,581	64,484	250,778	225,455
Huron and Bruce, Goderich	7,147	6,556	34,024	57,054	9,984	9,437	181,337	155,191
Guelph & Ontario, Guelph....	22,736	20,893	316,010	337,054	311,879	260,698	1,203,150	1,125,863
Hamilton Provident Hamilton	77,000	77,000	751,309	816,136	825,166	801,290	3,320,068	3,141,458
Homestead Loan, Hamilton	....	....	17,032	23,584	4,524	4,422	94,368	82,467
Landed Banking, Hamilton	33,455	32,176	341,688	324,486	319,519	288,457	1,470,039	1,358,449
Frontenac Loan, Kingston	12,000	12,000	70,772	56,076	73,220	96,100	392,434	375,899
Ontario Building, Kingston........	15,000	15,000	135,367	138,130	141,322	121,038	398,970	372,990
Agricul. Savings, London	43.304	43,131	216,853	303,557	334,654	426,015	1,487,964	1,517,279
Canadian Savings, London	47,743	50,766	190,843	300,418	344,139	351,373	1,511,519	1,578,988
Dominion Savings, London	55,646	60,400	391,896	458,215	662,833	618,187	1,866,342	2,028,772
Empire Loan, London	5,709	5,343	53,844	81,092	38,083	45,546	177,327	158,630
Huron and Erie, London	99,000	99,000	736,594	540,713	724,411	649,327	3,663,068	3,417,912
London Loan, London	43,638	42,838	200,805	218,814	334,471	393,351	1,205,618	1,192,236
Ontario Investm'nt, London	....	28,798	42,496	412,346	485,387	723,461	1,039,251	1,364,901
Ontario Loan, London	84,000	84,000	619,880	618,381	654,859	799,569	3,341,030	3,147,130
Royal Standard, London	10,340	10,081	23,670	71,466	68,983	82,231	344,670	372,946
Orangeville Build'g, Orangeville......	1,234	1,015	6,477	705	3,060	2,340	23,253	18,611
Ontario Loan, Oshawa	20,949	20,914	88,895	114,518	163,888	208,382	784,106	812,903
Civil Service, Ottawa..........	3,110	3,731	1,260	2,359	18,878	....	41,079	63,226
Metropolitan Loan, Ottawa	18,635	18,635	57,777	34,364	77,681	70,205	261,701	248,490
Central Canada, Peterborough....	30,000	30,000	713,401	317,401	866,539	507,544	780,213	876,259
Crown Savings, Petrolea.........	6,982	6,881	24,231	18,005	23,933	24,845	138,954	128,520
Midland Loan, Port Hope	20,312	18,485	153,444	171,591	146,104	113,523	899,308	834,066
Security Loan, St. Catharines...	19,191	19,191	149,603	190,876	132,216	125,094	580,052	561,672
Elgin Loan, St. Thomas......	9,407	9,048	19,701	68,283	61,587	40,684	281,847	305,158

LOAN AND INVESTMENT COMPANIES.

TABLE NO. III.—Comparative statement of dividends declared, etc.—*Continued.*

Companies.	Dividend declared.		Loaned during the year.		Received from borrowers.		Total invested and secured by mortgage.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
	$	$	$	$	$	$	$	$
Southern Loan, St. Thomas......	28,000	27,958	83,532	94,062	106,460	152,423	707,110	685,413
S. Western Farmers' St. Thomas......	9,318	8,806	36,767	48,638	56,502	43,650	234,132	236,809
Star Loan, St. Thomas......	9,407	8,657	44,924	65,543	37,167	75,134	276,138	256,013
Huron & Lambton, Sarnia	22,728	22,425	94,386	131,657	109,274	127,280	543,394	533,493
Lambton Loan, Sarnia	33,246	31,415	212,760	265,744	244,900	236,298	1,145,952	1,113,457
British Mortgage, Stratford	20,480	19,337	127,811	253,495	168,655	247,629	694,702	686,611
Bristol & W. of Eng. Toronto	10,639	10,483	229,431	258,202	310,804	273,701	1,139,383	1,138,425
Building and Loan, Toronto	45,000	45,000	289,973	263,431	328,261	335,358	1,496,540	1,525,849
Canada Landed, Toronto	46,480	53,119	237,547	294,325	325,200	369,532	2,177,205	2,105,122
Canada Permanent, Toronto	276,000	276,000	2,122,103	1,416,069	1,910,937	1.872,807	9.967,219	8,993,413
Dovercourt Land, Toronto	4,427	2,909	....	....	....	....	82,610	98,687
Farmers' Loan, Toronto	42,800	42,800	308,119	368,263	338,859	300,390	1,578,168	1,499,692
Freehold Loan, Toronto	120,000	106,082	823,144	1,289,036	903,783	847,800	5,063,758	4,813,332
Home Savings, Toronto	10,560	9,899	1,387,119	1,222,707	1,455,912	1,185,302	705,067	528,189
Imperial Loan, Toronto	43,885	43,825	469,764	661,421	392,850	482,279	1,764,457	1,678,764
Land Security, Toronto	38,511	30,630	476,965	354,049	235,342	181,058	837,649	596,026
London & Canadian Toronto	70,000	63,000	605,581	774,782	950,069	826,763	3,739,168	3,803,046
National Investm'nt Toronto	25,500	25,500	299,236	274,303	257,066	307,540	1,472,220	1,266,298
North of Scotland, Toronto	64,667	64,667	486,653	481,203	388,242	748,993	3,158,877	3,065,135
Ontario Industrial, Toronto	21,681	21,260	108,974	75,948	73,892	60,655	198,911	144,677
People's Loan, Toronto	41,480	40,777	242,067	248,628	295,645	339,406	1,254,446	1,222,464
Real Estate Loan, Toronto	....	....	20,504	7,484	29,343	49,984	235,669	275,837
Toronto Land, Toronto	3,011	2,815	9,528	42,107	13.959	19,957	57,777	61,081
Trust and Loan, Toronto	94,900	94,900	917,430	641,985	1,018,561	903,344	4,833,988	4,554,475
Union Loan, Toronto	51,857	51,009	435,998	429,371	467,659	424,904	1,709,598	1,608,554
Western Canada, Toronto	141,855	133,199	1,303,682	1,105,339	1,250,667	1,339,257	6,118,983	5,759,971
Oxford Permanent, Woodstock	16,080	15,916	14,938	72,789	47,304	84,039	328,192	348,366
Totals.......	2,035,446	2,021,207	17,049,796	17,162,412	18,839,040	18,987,927	78,776,916	75,494,963

LOAN AND INVESTMENT COMPANIES.

TABLE No. IV.—Comparative statement of amounts of deposits (received and repaid) and of debentures (issued and repaid) by the 55 companies reporting for 1887 and 1888.

Companies.	Deposits—				Debentures—			
	Received.		Repaid.		Issued.		Repaid.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
	$	$	$	$	$	$	$	$
Hastings Loan, Belleville........	210,165	179,874	235,301	170,392	....	....	....	....
Royal Loan, Brantford........	786,082	920,275	762,069	958,388	189,637	91,916	119,802	43,488
Chatham Loan, Chatham...	380,072	353,271	364,533	343,817	....	....	....	....
Huron and Bruce, Goderich.........	130,911	150,098	120,845	90,293	....	....	....	....
Guelph and Ontario, Guelph...........	820,567	599,592	784,029	620,321	338,210	377,441	368,591	240,975
Hamilton Provident, Hamilton.........	1,200,202	1,289,201	1,295,423	1,197,133	455,146	162,505	223,636	89,132
Homestead Loan, Hamilton.........	17,991	15,615	17,474	8,805	....	....	....	....
Landed Banking, Hamilton	1,206,959	1,296,303	1,157,284	1,214,851	144,128	77,250	76,700	80,300
Frontenac Loan, Kingston.........	317,820	335,883	333,023	328,735	....	....	....	....
Ontario Building, Kingston.........	349,465	319,458	351,331	318,693	....	....	....	....
Agricult'ral Savings, London	712,605	919,576	768,136	958,370	111,194	97,980	86,465	78,600
Canadian Savings, London,..........	1,145,392	1,087,302	1,194,518	1,082,936	24,286	66,986	23,986	25,986
Dominion Savings, London...........	782,617	1,415,457	914,562	1,551,050	67,608	119,018	65,276	25,307
Empire Loan, London...........	209,445	204,746	198,435	183,297	....	....	....	....
Huron and Erie, London.	954,507	1,338,608	1,006,724	1,364,008	204,037	312,513	39,693	53,230
London Loan, London...........	882,163	1,038,240	857,780	1,039,440	39,300	167,416	86,340	283,700
Ontario Investment,* London...........	380	215,132	9,390	359,492	55,000	362,257	471,380	351,790
Ontario Loan, London.....	574,615	652,549	596,703	617,939	316,427	65,753	225,123	67,890
Royal Standard, London...........	287,098	315,815	309,570	299,971	....	16,400	1,000	18,000
Orangeville Build'g, Orangeville.......	....	....	....	....	....	....	....	....
Ontario Loan, Oshawa	298,528	325,312	336,368	427,898	74,592	57,675	57,631	40,125
Civil Service, Ottawa	....	....	....	....	....	....	....	....
Metropolitan Loan, Ottawa...........	34,955	75,939	37,788	86,748	....	....	....	....
Central Canada, Peterborough.....	378,580	441,406	541,454	424,839	72,340	60,000	....	135,000
Crown Savings, Petrolea..........	28,426	34,593	24,385	42,445	....	....	....	....
Midland Loan, Port Hope	476,874	422,868	493,049	353,189	245,176	202,966	229,824	230,176
Security Loan, St. Catharines....	302,551	308,263	316,056	249,192	20,867	7,000	10,113	14,723
Elgin Loan, St. Thomas.......	219,121	224,702	228,349	222.670	....	....	....	....

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* In liquidation.

LOAN AND INVESTMENT COMPANIES.

TABLE No. IV.—Comparative statement of amounts of deposits (received and repaid), etc.—*Continued.*

Companies.	Deposits—				Debentures—			
	Received.		Repaid.		Issued.		Repaid.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
	$	$	$	$	$	$	$	$
Southern Loan, St. Thomas	362,411	315,408	329,875	315,486	....	....	....	....
Southwt'rn Farmers', St. Thomas	119,846	111,974	123,504	109,766	....	....	....	....
Star Loan, St. Thomas	126,228	123,238	111,072	127,609	....	....	....	....
Huron & Lambton, Sarnia	327,617	338,243	314,614	341,529	....	....	....	....
Lambton Loan, Sarnia	680,597	641,092	830,738	590,342	137,434	19,200	25,108	9,300
British Mortgage, Stratford	436,212	503,863	441,252	469,244	....	....	....	....
Bristol & W. of Eng. Toronto	....	....	....	....	72,270	81,560	63,997	54,688
Building and Loan, Toronto	753,503	847,173	826,273	845,873	69,931	67,923	46,887	31,647
Canada Landed, Toronto	....	....	....	....	373,753	313,385	323,635	264,712
Canada Permanent, Toronto	301,585	356,040	353,750	448,078	1,081,732	543,605	347,860	225,343
Dovercourt Land, Toronto	....	....	....	....	....	....	....	....
Farmers' Loan, Toronto	737,624	468,639	778,701	422,539	134,686	104,687	8,707	7,822
Freehold Loan, Toronto	477,226	789,880	753,907	797,084	819,185	643,231	223,633	232,707
Home Savings, Toronto	3,407,775	3,441,964	3,467,992	3,325,201	....	....	....	....
Imperial Loan, Toronto	250,677	330,703	264,918	297,473	132,877	221,690	37,377	15,087
Land Security, Toronto	277,205	139,805	177,493	121,764	251,500	278,850	202,700	205,000
London & Canadian, Toronto	....	....	....	....	470,417	277,680	468,121	238,861
National Investment Toronto	....	....	....	....	199,835	193,929	94,020	125,495
North of Scotland, Toronto	....	....	....	....	703,301	878,365	610,363	829,820
Ontario Industrial, Toronto	65,237	118,461	90,865	102,074	....	....	....	....
People's Loan, Toronto	823,082	937,884	854,809	1,037,787	10,900	50,300	11,700	6,000
Real Estate Loan, Toronto	....	....	....	26,315	....	....	....	....
Toronto Land Toronto	....	....	....	....	....	....	....	....
Trust and Loan, Toronto	....	....	....	....	199,144	25,355	75,093	148,190
Union Loan, Toronto	446,441	524,814	531,412	548,759	235,598	106,454	75,622	32,060
Western Canada, Toronto	513,533	676,970	586,319	689,246	708,033	212,595	423,488	141,140
Oxford Permanent. Woodstock	103,808	136,842	96,277	152,360	....	....	....	....
Totals	22,918,698	25,283,071	24,188,350	25,283,441	7,958,544	6,263,884	5,123,871	4,346,294

LOAN AND INVESTMENT COMPANIES.

TABLE No. V.—Statement of affairs showing the capital stock, liabilities and assets of 64 Loan and Investment Companies in the Province of Ontario for the year 1888, as required to be furnished by Chapter 169, Section 83, *et seq.*, R. S. O. 1887, or by provisions of Special Charters.

Schedule.	Barrie Loan and Savings Company, Barrie.	Hastings Loan and Investment Society, Belleville.	Royal Loan and Savings Company, Brantford.	Chatham Loan and Savings Company, Chatham.	Huron and Bruce Loan and Investment Company, Goderich.	Guelph and Ontario Investment and Savings Society, Guelph.	Hamilton Provident and Loan Society, Hamilton.
Capital Stock.	$	$	$	$	$	$	$
Capital authorised..........	250,000	250,000	500,000	1,000,000	500,000	500,000	1,500,000
Capital subscribed..........	250,000	225,000	500,000	315,300	196,000	450,000	1,500,000
Liabilities.							
Liabilities to stockholders..	130,209	204,359	592,577	87,853	133,270	432,916	1,379,198
Stock fully paid up.......	....	....	482,600	....	78,350	307,500	1,000,000
Stock on which has been paid	117,500	184,628	11,935	85,053	51,026	20,000	100,000
Accumulating stock......	....	....	....	....	....	8,500	....
Reserve fund.............	8,500	13,500	70,000	2,800	....	84,000	215,000
Dividends declared and unpaid	4,101	5,497	19,748	....	3,740	11,390	38,500
Contingent fund and unappropriated profits....	108	734	8,294	....	154	1,526	25,698
Liabilities to the public	41,301	119,246	689,153	191,233	74,938	850,786	2,248,173
Deposits	26,887	88,246	407,020	191,233	74,938	334,973	997,841
Debentures payable in Canada	....	....	274,975	....	....	500,397	169,666
Debentures payable elsewhere....	....	....	....	....	....	....	*1,034,993
Interest on debentures and deposits due and accrued..	....	....	6,551	....	....	15,416	10,420
Owing to banks..........	14,409	31,000	....	....	....	....	....
Other liabilities..........	5	....	607	....	....	....	35,253
Total liabilities............	171,510	323,605	1,281,730	279,086	208,208	1,283,702	3,627,371
Assets.							
Secured loan assets	171,189	319,202	1,208,235	251,320	190,076	1,206,266	3,383,865
Real estate of— General borrowers......	171,189	315,792	1,201,365	250,778	190,076	1,203,150	3,320,068
Directors and officers of company	....	....	....	....	....	....	....
Shareholders' stock..... .	....	3,410	3,094	542	....	378	3,635
Directors or officers of the company on their stock.	....	....	3,776	....	....	....	....
Otherwise secured........	....	....	....	....	....	2,738	60,162
Property assets............	321	4,403	73,495	27,766	18,132	77,436	243,506
Municipal and school section securities, cash value	....	....	....	....	....	8,735	58,583
Office furniture and fixtures	....	1,638	317	493	590	....	....
Cash on hand............	321	1,532	3,904	3,451	857	....	1,780
Cash in banks	....	1,233	28,004	14,761	16,685	68,701	94,143
Office premises	....	....	....	9,061	....	....	89,000
Real estate foreclosed....	....	....	21,270	....	....	....	....
Other property	....	....	20,000	....	....	....	....
Total assets...............	171,510	323,605	1,281,730	279,086	208,208	1,283,702	3,627,371

* Including $378,383 of debenture stock.

LOAN AND INVESTMENT COMPANIES.

Table No. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Hamilton Homestead Loan and Savings Society, Hamilton.	Landed Banking and Loan Company, Hamilton.	Frontenac Loan and Investment Society, Kingston.	Ontario Building and Savings Society, Kingston.	Agricultural Savings and Loan Company, London.	Canadian Savings and Loan Company, London.	Dominion Savings and Investment Society, London.
Capital Stock.	$	$	$	$	$	$	$
Capital authorised.........	1,000,000	700,000	Unlimited	250,000	1,000,000	Unlimited	1,000,000
Capital subscribed.........	287,562	700,000	200,000	250,000	630,200	750,000	1,000,000
Liabilities.							
Liabilities to stockholders..	97,051	666,785	242,377	279,682	739,705	858,708	1,030,054
Stock fully paid up	....	....	200,000	250,000	....	....	....
Stock on which has been paid	62,713	536,300	....	....	615,300	679,750	927,450
Accumulating stock......	....	21,679	....	....	3,833	1,865	1,306
Reserve fund	....	80,000	30,000	....	98,000	160,000	....
Dividends declared and unpaid	....	16,070	6,245	7,526	21,533	....	28,080
Contingent fund and unappropriated profits....	34,338	12,736	6,132	22,156	1,039	17,093	73,218
Liabilities to the public....	....	830,020	254,111	163,445	848,340	817,145	961,177
Deposits	....	520,873	254,111	163,404	546,495	634,902	575,976
Debentures payable in Canada	....	239,469	....	....	142,400	141,786	72,911
Debentures payable elsewhere...............	....	61,088	....	....	154,814	36,500	307,281
Interest on debentures and deposits due and accrued	....	6,540	....	....	3,965	3,957	3,659
Owing to banks..........	....	....	....	....	....	....	....
Other liabilities..........	....	2,050	....	41	666	....	1,350
Total liabilities	97,051	1,496,805	496,488	443,127	1,588,045	1,675,853	1,991,231
Assets.							
Secured loan assets	94,368	1,469,019	417,433	374,925	1,514,147	1,627,935	1,930,299
Real estate of—							
General borrowers.....	89,818	1,465,189	347,856	367,148	1,468,028	1,480,917	1,866,342
Directors and officers of company	4,550	....	11,880	....	....	....	....
Shareholders' stock......	....	3,830	13,155	4,253	25,166	144,630	63,957
Directors or officers of the company on their stock.	....	....	19,542	3,524	1,017	924	....
Otherwise secured	....	....	25,000	....	19,936	1,464	....
Property assets....	2,683	27,786	79,055	68,202	73,898	47,918	60,932
Municipal and school section securities, cash value	....	....	....	4,120	2,027	723	....
Office furniture and fixtures	340	....	189	87	500	....	1,000
Cash on hand...........	....	364	....	67	3,031	....	1,080
Cash in banks	1,045	22,572	28,015	25,968	39,526	16,593	58,852
Office premises	....	....	3,716	....	28,000	....	....
Real estate foreclosed....	....	4,850	7,168	31,822	....	30,602	....
Other property	1,298	....	39,967	6,138	814	....	....
Total assets	97,051	1,496,805	496,488	443,127	1,588,045	1,675,853	1,991,231

LOAN AND INVESTMENT COMPANIES.

TABLE NO. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Empire Loan Company of Canada, London.	Huron and Erie Loan and Savings Company, London.	London Loan Company of Canada, London.	London Stock Company of Ontario, London.	Ontario Investment Association, London	Ontario Loan and Debenture Company, London.	Royal Standard Loan Company, London.
Capital Stock.	$	$	$	$	$	$	$
Capital authorised.........	1,000,000	1,500,000	Unlimited	100,000	2,750,000	2,000,000	1,000,000
Capital subscribed	215,000	1,500,000	679,700	100,000	2,665,600	2,000,000	240,000
Liabilities.							
Liabilities to stockholders..	106,036	1,602,826	692,125	40,000	765,294	1,582,345	198,061
Stock fully paid up	71,200	1,000,000	....	....	....	1,000,000	....
Stock on which has been paid	27,169	100,000	622,650	40,000	765,294	200,000	169,750
Accumulating stock......	....	....	3,454	....	....	....	4,374
Reserve fund	7,667	453,000	60,000	....	....	340,000	18,000
Dividends declared and unpaid	....	49,528	....	....	....	42,000	5,082
Contingent fund and unappropriated profits....	....	298	6,021	....	....	345	855
Liabilities to the public	116,653	2,279,488	547,722	....	1,274,550	2,024,437	177,516
Deposits	114,900	1,087,555	386,694	....	2,418	440,015	159,681
Debentures payable in Canada	....	322,500	157,376	....	....	4,000	17,400
Debentures payable elsewhere	....	855,073	....	....	1,261,683	1,561,981	.. ..
Interest on debentures and deposits due and accrued.	400	14,360	3,652	....	7,949	18,441	435
Owing to banks....	1,353	....	....	....	....	....	....
Other liabilities..........	....	....	....	....	2,500	....	....
Total liabilities	222,689	3,882,314	1,239,847	40,000	2,039,844	3,606,782	375,577
Assets.							
Secured loan assets	221,813	3,663,068	1,189,043	40,000	1,338,331	3,388,338	355,992
Real estate of—							
General borrowers	176,327	3,663,068	1,094,424	....	925,271	3,341,030	338,107
Directors and officers of company	1,000	....	3,505	....	24,286	....	6,563
Shareholders' stock	40,910	....	22,929	....	37,259	36,189	5,759
Directors or officers of the company on their stock.	....	....	67,315	....	....	....	5,563
Otherwise secured........	3,576	.. ..	870	40,000	351,515	11,119	....
Property assets......... ..	876	219,246	50,804	....	701,513	218,444	19,585
Municipal and school section securities, cash value.	....	....	....	....	1,300	14,378	....
Office furniture and fixtures	507	....	400	....	....	....	450
Cash on hand............	369	2,942	2,465	....	....	....	84
Cash in banks	....	118,214	31,353	....	64,179	73,978	13,551
Office premises	....	19,000	....	....	....	72,681	....
Real estate foreclosed....	....	17,500	16,575	....	....	....	5,500
Other property	....	61,590	11	....	*636,034	57,407	....
Total assets................	222,689	3,882,314	1,239,847	40,000	2,039,844	3,606,782	375,577

* Company in liquidation ; of this amount $635,634 is to meet estimated loss in realising on assets.

LOAN AND INVESTMENT COMPANIES.

TABLE No. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Orangeville Building and Loan Association, Orangeville.	Ontario Loan and Savings Company, Oshawa.	Civil Service Building and Savings Society, Ottawa.	Metropolitan Loan and Savings Company, Ottawa.	Central Canada Loan and Savings Company, Peterborough.	Peterboro' Real Estate Investment Company, Peterborough.	Crown Savings and Loan Company, Petrolea.
Capital Stock.	$	$	$	$	$	$	$
Capital authorised	50,000	300,000	44,000	320,000	2,000,000	2,000,000	1,000,000
Capital subscribed	24,550	300,000	44,000	320,000	1,000,000	2,000,000	163,700
Liabilities.							
Liabilities to stockholders	22,020	374,512	44,214	365,095	599,261	384,549	119,098
Stock fully paid up	...	...	...	...	400,000	...	78,050
Stock on which has been paid	14,950	299,267	41,469	310,550	100,000	349,560	31,325
Accumulating stock	5,609	...	...	42	...	...	...
Reserve fund	227	75,000	1,501	30,000	80,000	23,000	6,000
Dividends declared and unpaid	897	...	1,244	9,318	15,000	...	3,248
Contingent fund and unappropriated profits	337	245	...	15,185	4,261	11,989	475
Liabilities to the public	1,338	525,306	...	29,810	633,167	893,941	32,179
Deposits	...	273,832	...	29,810	344,532	...	32,179
Debentures payable in Canada	...	227,702	...	...	170,500	17,000	...
Debentures payable elsewhere	...	...	...	...	53,922	867,055	...
Interest on debentures and deposits due and accrued	...	...	...	...	4,816	3,520	...
Owing to banks	1,250	23,772	...	...	...	...	...
Other liabilities	88	...	...	...	59,397	6,366	...
Total liabilities	23,358	899,818	44,214	394,905	1,232,428	1,278,490	151,277
Assets.							
Secured loan assets	23,253	881,027	41,079	283,921	1,191,424	1,231,647	146,460
Real estate of—							
General borrowers	23,253	784,106	40,410	243,652	780,213	1,231,647	144,930
Directors and officers of company	...	...	...	18,049	...	...	1,530
Shareholders' stock	...	14,878	170	15,916	...	...	...
Directors or officers of the company on their stock	...	8,589	349	...	...	...	...
Otherwise secured	...	73,454	150	6,304	411,211	...	...
Property assets	105	18,791	3,135	110,984	41,004	46,843	4,817
Municipal and school section securities, cash value	...	...	...	792	...	...	...
Office furniture and fixtures	...	596	...	460	...	...	70
Cash on hand	36	658	...	...	1,653	...	...
Cash in banks	40	6,537	3,135	1,829	39,351	257	4,747
Office premises	...	11,000	...	16,116	...	...	...
Real estate foreclosed	...	...	...	91,787	...	45,094	...
Other property	29	...	...	...	...	1,492	...
Total assets	23,358	899,818	44,214	394,905	1,232,428	1,278,490	151,277

LOAN AND INVESTMENT COMPANIES.

TABLE NO. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Midland Loan and Savings Company, Port Hope.	Security Loan and Savings Company, St. Catharines.	Elgin Loan and Savings Company, St. Thomas.	Southern Loan and Savings Company, St. Thomas.	Southwestern Farmers' and Mechanics' Savings and Loan Society, St. Thomas.	Star Loan Company, St. Thomas.	St. Thomas Loan Company, St. Thomas.
Capital stock.	$	$	$	$	$	$	$
Capital authorised	380,000	300,000	625,000	Unlimited	Unlimited	270,000	500,000
Capital subscribed	380,000	275,000	625,000	400,000	156,100	237,700	102,600
Liabilities.							
Liabilities to stockholders..	367,425	321,069	175,901	464,000	149,367	171,666	36,942
Stock fully paid up	280,000	....	....	400,000	....	....	....
Stock on which has been paid	20,000	274,156	159,963	....	133,407	118,800	36,776
Accumulating stock	....	....	....	....	47	42,344	....
Reserve fund...........	53,000	33,000	13,000	61,000	9,000	8,500	....
Dividends declared and unpaid	10,561	9,596	....	....	4,657	....	....
Contingent fund and unappropriated profits....	3,864	4,317	2,938	3,000	2,256	2,022	166
Liabilities to the public....	589,149	280,782	122,495	279,099	99,309	115,418	....
Deposits	279,915	252,314	122,495	279,099	99,309	115,205	....
Debentures payable in Canada	300,044	28,468	....	....	....	....	....
Debentures payable elsewhere	....	....	....	....	....	....	....
Interest on debentures and deposits due and accrued	9,190	....	....	....	....	....	....
Owing to banks..........	....	....	....	....	....	....	....
Other liabilities.........	....	....	....	....	....	213	....
Total liabilities	956,574	601,851	298,396	743,099	248,676	287,084	36,942
Assets.							
Secured loan assets	912,485	561,187	283,243	713,493	236,892	281,211	33,140
Real estate of—							
General borrowers......	899,308	546,735	278,960	707,110	234,132	263,987	32,540
Directors and officers of company	....	....	2,887	....	....	12,151	....
Shareholders' stock	7,771	9,469	1,396	4,541	....	5,073	600
Directors or officers of the company on their stock.	4,700	....	....	1,842	2,760	....	....
Otherwise secured	706	4,983	....	....	....	....	....
Property assets...........	44,089	40,664	15,153	29,606	11,784	5,873	3,802
Municipal and school section securities, cash value	....	....	....	....	....	....	....
Office furniture and fixtures	669	200	....	....	11	....	....
Cash on hand...........	800	....	....	....	....	....	....
Cash in banks	21,715	7,061	15,153	27,583	11,773	5,873	3,802
Office premises	....	....	....	....	....	....	....
Real estate foreclosed....	19,546	33,317	....	2,023	....	....	....
Other property	1,359	86	....	....	....	....	....
Total assets	956,574	601,851	298,396	743,099	248,676	287,084	36,942

LOAN AND INVESTMENT COMPANIES.

TABLE NO. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Huron & Lambton Loan and Savings Company, Sarnia.	Lambton Loan and Investment Company, Sarnia.	British Mortgage Loan Company, Stratford.	Bristol and West of Eng. Canadian Land Mortgage and Investment Co., Toronto.	British Canadian Loan and Investment Company, Toronto.	Building and Loan Association, Toronto.	Canadian Homestead Loan and Savings Company, Toronto
Capital Stock.	$	$	$	$	$	$	$
Capital authorised	1,000,000	1,000,000	5,000,000	2,433,333	5,000,000	750,000	1,000,000
Capital subscribed	500,000	450,000	450,000	664,908	1,620,000	750,000	365,200
Liabilities.							
Liabilities to stockholders	374,783	601,391	357,282	154,135	404,047	910,840	37,796
Stock fully paid up	....	....	126,300	....	....	750,000	....
Stock on which has been paid	288,350	438,913	168,240	132,982	322,423	....	35,637
Accumulating stock	36,414	....	....	....	....	....	....
Reserve fund	50,000	158,000	52,000	9,733	60,000	100,000	....
Dividends declared and unpaid	....	....	10,297	....	11,285	22,500	....
Contingent fund and unappropriated profits	19	4,478	445	11,420	10,339	38,340	2,159
Liabilities to the public	272,462	644,523	340,415	1,081,914	1,237,418	784,665	10,495
Deposits	252,529	436,682	327,734	....	10,509	233,128	....
Debentures payable in Canada	....	188,776	....	....	139,301	82,551	....
Debentures payable elsewhere	....	....	....	1,055,530	1,069,363	468,100	....
Interest on debentures and deposits due and accrued.	....	3,645	12,681	12,093	13,075	....	....
Owing to banks	19,933	15,420	....	....	....	....	....
Other liabilities	....	....	....	14,291	5,170	886	10,495
Total liabilities	647,245	1,245,914	697,697	1,236,049	1,641,465	1,695,505	48,291
Assets.							
Secured loan assets	644,296	1,161,557	695,153	1,109,327	1,483,891	1,496,540	45,400
Real estate of—							
General borrowers	543,394	1,139.348	667,169	1,109,327	1,475,641	1,488,720	40,600
Directors and officers of company	....	6,604	27,533	....	....	....	4,800
Shareholders' stock	38,965	13,160	451	....	4,350	7,820	....
Directors or officers of the company on their stock.	....	2,445	....	....	....	....	....
Otherwise secured	61,937	....	....	....	3,900	....	....
Property assets	2,949	84,357	2,544	126,722	157,574	198,965	2,891
Municipal and school section securities, cash value.	....	62,158	....	....	5,534	....	....
Office furniture and fixtures	....	1,000	....	....	446	....	50
Cash on hand	2,949	4,932	....	69	628	3,021	....
Cash in banks	....	8,267	2,544	31,620	42,108	52,785	2,841
Office premises	....	8,000	....	....	....	80,000	....
Real estate foreclosed	....	....	....	31,061	93,799	61,937	....
Other property	....	....	....	63,972	15,059	1,222	....
Total assets	647,245	1,245,914	697,697	1,236,049	1,641,465	1,695,505	48,291

LOAN AND INVESTMENT COMPANIES.

TABLE No. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Canada Landed Credit Company, Toronto.	Canada Permanent Loan and Savings Company, Toronto.	Dovercourt Land, Building and Savings Company, Toronto.	Farmers' Loan and Savings Company, Toronto.	Freehold Loan and Savings Company, Toronto.	Home Savings and Loan Company, Toronto.	Imperial Loan and Investment Company, Toronto.
Capital Stock.	$	$	$	$	$	$	$
Capital authorised	2,000,000	4,500,000	500,000	1,057,250	2,700,000	2,000,000	1,000,000
Capital subscribed	1,500,000	4,500,000	64,500	1,057,250	2,700,000	1,500,000	629,850
Liabilities.							
Liabilities to stockholders	872,088	4,071,305	83,240	745,420	1,867,642	265,315	760,119
Stock fully paid up	....	2,000,000	....	500,000	825,000	....	....
Stock on which has been paid	664,000	499,208	63,400	111,430	375,000	150,000	625,400
Accumulating stock	....	....	....	....	....	....	1,549
Reserve fund	158,000	1,320,000	15,000	112,590	570,000	86,000	106,000
Dividends declared and unpaid	26,059	138,007	2,218	21,400	60,000	5,250	21,954
Contingent fund and unappropriated profits	24,029	114,090	2,622	....	37,642	24,065	5,216
Liabilities to the public	1,426,669	6,515,314	39,538	884,665	3,526,212	1,552,817	1,045,894
Deposits	....	965,022	....	518,652	785,641	1,498,961	150,158
Debentures payable in Canada	42,670	484,480	....	179,618	651,057	....	153,659
Debentures payable elsewhere	1,378,194	*4,890,399	....	168,873	2,018,234	....	722,315
Interest on debentures and deposits due and accrued	549	162,771	....	17,522	71,280	51,356	19,762
Owing to banks	2,702	....	....	....	....	....	....
Other liabilities	2,554	12,642	39,538	....	....	2,500	....
Total liabilities	2,298,757	10,586,619	122,778	1,630,085	5,393,854	1,818,132	1,806,013
Assets.							
Secured loan assets	2,182,801	10,027,868	84,003	1,582,753	5,084,889	1,648,362	1,776,193
Real estate of—							
General borrowers	2,155,702	9,961,017	82,610	1,578,168	5,063,578	681,048	1,764,457
Directors and officers of company	....	6,202	....	....	....	24,019	....
Shareholders' stock	....	60,649	....	4,585	21,311	3,627	11,446
Directors or officers of the company on their stock.	....	....	....	....	....	2,046	290
Otherwise secured	27,099	....	1,393	....	....	937,622	....
Property assets	115,956	558,751	38,775	47,332	308,965	169.770	29,820
Municipal and school section securities, cash value	....	245,341	....	....	1,566	47,840	980
Office furniture and fixtures	....	....	....	406	3,985	1,865	700
Cash on hand	238	212	983	819	560	12,186	1,652
Cash in bank	49,126	188,658	2,759	43,362	277,491	71,429	26,488
Office premises	40,000	114,255	....	....	12,127	15,850	....
Real estate foreclosed	22,026	8.642	....	....	....	....	....
Other property	4,566	1,643	35,033	2,745	13,236	20,600	....
Total assets	2,298,757	10,586,619	122,778	1,630,085	5,393,854	1,818,132	1.806,013

* Including $495,670 of debenture stock.

LOAN AND INVESTMENT COMPANIES.

TABLE No. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Land Security Company, Toronto.	London and Canadian Loan and Agency Company, Toronto.	London and Ontario Investment Company, Toronto.	National Investment Company of Canada, Toronto.	North British Canadian Investment Company, Toronto.	North of Scotland Canadian Mortgage Company, Toronto.
	$	$	$	$	$	$
Capital Stock.						
Capital authorised	1,000,000	5,000,000	2,500,000	2,000,000	2,433,333	3,650,000
Capital subscribed	977,825	5,000,000	2,472,600	1,700,000	2,433,333	3,233,364
Liabilities.						
Liabilities to stockholders	918,859	1,113,723	626,828	473.934	630,675	916,806
Stock fully paid up						
Stock on which has been paid	399,189	700,000	494,520	425,000	499,320	646,673
Accumulating stock						
Reserve fund	430,000	360,000	115,000	30,000	97,333	231,167
Dividends declared and unpaid	19,846	35,000	17,308	13,137	12,599	32,334
Contingent fund and unappropriated profits	69,824	18,723		5,797	21,423	6,632
Liabilities to the public	789,211	3,490,887	2,265,761	1,092,135	1,800,266	2,540,880
Deposits	229,269				1,947	
Debentures payable in Canada	330,950	20,000	472,145	107,471		
Debentures payable elsewhere		†3,367,932	1,737,216	971,513	*1,779,659	2,535,631
Interest on debentures and deposits due and accrued	6,115	26,251	17,864	9,453	11,329	
Owing to banks		18,422				
Other liabilities	222,877	58,282	38,536	3,698	7,331	5,249
Total liabilities	1,708,070	4,604,610	2,892,589	1,566,069	2,430,941	3,457,686
Assets.						
Secured loan assets	792,276	3,659,269	2,659,969	1,474,487	1,966,538	3,158,877
Real estate of—						
General borrowers	763,160	3,536,935	2,659,969	1,464,220	1,965,543	3,158,877
Directors and officers of company				8,000		
Shareholders' stock						
Directors or officers of the company on their stock						
Otherwise secured	29,116	122,334		2,267	995	
Property assets	915,794	945,341	232,620	91,582	464,403	298,809
Municipal and school section securities, cash value		448,776	59,251		15,866	181,143
Office furniture and fixtures		3,463	2,640		243	1,230
Cash on hand				498	2,325	189
Cash in banks	2,475	30,923	55,039	33,752	149,867	14,463
Office premises		38,217				61,936
Real estate foreclosed		202,233	114,859	57,332	163,500	38,793
Other property	913,319	221,729	831		132,602	1,055
Total assets	1,708,070	4,604,610	2,892,589	1,566,069	2,430,941	3,457,686

* Including $368,728 of debenture stock. † Including certificates payable at fixed dates.

LOAN AND INVESTMENT COMPANIES.

TABLE No. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Ontario Industrial Loan and Investment Company, Toronto.	People's Loan and Deposit Company, Toronto.	Real Estate Loan Company of Canada, Toronto.	Scottish, Ontario and Manitoba Land Company, Toronto.	Toronto Land and Loan Company, Toronto.	Trust and Loan Company of Canada, Toronto.
Capital Stock.	$	$	$	$	$	$
Capital authorised	500,000	600,000	2,000,000	2,433,333	1,000,000	14,600,000
Capital subscribed	466,800	600,000	757,200	1,216,667	104,600	7,300,000
Liabilities.						
Liabilities to stockholders	451,592	732,314	483,187	921,664	74,575	2,366,975
Stock fully paid up	58,000	....	....	....	....	....
Stock on which has been paid	252,582	589,700	401,050	845,514	72,659	1,581,667
Accumulating stock	....	4,802	70,021	....	....	....
Reserve fund	120,000	107,000	....	58,400	1,015	715,185
Dividends declared and unpaid	10,853	20,716	129	9,201	....	47,450
Contingent fund and unappropriated profits	10,157	10,096	11,987	8,549	901	22,673
Liabilities to the public	218,680	562,347	284	342,898	28,841	3,719,984
Deposits	83,754	473,802	284	2,360	....	....
Debentures payable in Canada	....	86,800	....	....	1,550	....
Debentures payable elsewhere	....	....	....	324,864	....	3,629,673
Interest on debentures and deposits due and accrued	2,348	1,252	....	2,424	502	....
Owing to banks	....	....	....	2,642	1,000	....
Other liabilities	132,578	493	....	10,608	25,789	90,311
Total liabilities	670,272	1,294,661	483,471	1,264,562	103,416	6,086,959
Assets.						
Secured loan assets	207,070	1,244,923	235,669	175,111	57,777	5,081,516
Real estate of—						
General borrowers	192,693	1,235,519	231,809	175,111	57,777	4,833,988
Directors and officers of company	6,218	....	....	....	....	....
Shareholders' stock	7,278	9,229	3,060	....	....	....
Directors or officers of the company on their stock	....	....	800	....	....	....
Otherwise secured	881	175	....	....	....	247,528
Property assets	463,202	49,738	247,802	1,089,451	45,639	1,005,443
Municipal and school section securities, cash value	....	....	....	....	....	....
Office furniture and fixtures	....	616	325	155	....	1,193
Cash on hand	343	2,641	650	756	102	1,827
Cash in banks	20,281	27,555	30,527	17,276	841	65,874
Office premises	....	....	....	....	....	63,442
Real estate foreclosed	....	18,926	173,171	63,860	....	105,762
Other property	442,578	....	43,129	1,007,404	44,696	767,345
Total assets	670,272	1,294,661	483,471	1,264,562	103,416	6,086,959

LOAN AND INVESTMENT COMPANIES.

TABLE NO. V.—Statement of affairs showing capital stock, liabilities, etc.—*Continued.*

Schedule.	Union Loan and Savings Company, Toronto.	Western Canada Loan and Savings Company, Toronto.	Oxford Permanent Loan and Savings Company, Woodstock.	Totals.	Totals of 55 companies reporting for both years.	
					1888.	1887.
	$	$	$	$	$	$
Capital Stock.						
Capital authorised	1,000,000	3,000,000	Unlimited	*96,246,249	*80,029,583	*79,175,583
Capital subscribed	1,000,000	3,000,000	242,450	67,939,559	57,379,159	56,114,310
Liabilities.						
Liabilities to stockholders	921,219	2,247,733	266,124	40,108,161	36,895,451	35,910,563
Stock fully paid up	582,171	1,000,000	228,100	11,617,271	11,617,271	11,342,861
Stock on which has been paid	78,030	400,000	3,198	18,470,826	15,729,576	15,429,167
Accumulating stock	....	....	....	205,839	205,839	222,602
Reserve fund	215,000	700,000	19,000	8,030,118	7,667,885	7,254,105
Dividends declared and unpaid	26,018	70,000	8,522	955,644	901,150	885,736
Contingent fund and unappropriated profits	20,000	77,733	7,304	828,463	773,730	776,092
Liabilities to the public	922,488	4,196,486	94,599	59,540,175	52,918,095	51,177,104
Deposits	412,111	1,246,957	94,414	16,560,766	16,519,063	17,533,413
Debentures payable in Canada	211,518	638,982	....	6,578,122	5,949,676	5,500,622
Debentures payable elsewhere	298,859	2,246,305	....	34,857,050	29,078,893	26,722,070
Interest on debentures and deposits due and accrued	....	63,527	....	619,070	570,858	587,484
Owing to banks	....	....	....	131,903	114,852	155,326
Other liabilities	....	715	185	793,264	714,753	678,189
Total liabilities	1,843,707	6,444,219	360,723	99,648,336	89,843,546	87,087,667
Assets.						
Secured loan assets	1,657,321	6,149,741	323,287	89,042,190	81,235,305	79,035,804
Real estate of—						
General borrowers	1,633,243	6,118,983	313,461	85,578,993	77,826,753	74,954,076
Directors and officers of company	....	....	....	169,777	164,977	252,957
Shareholders' stock	23,078	20,568	9,650	708,137	703,187	852,267
Directors or officers of the company on their stock	1,000	....	....	126,482	126,482	177,465
Otherwise secured	....	10,190	176	2,458,801	2,413,906	2,799,039
Property assets	186,386	294,478	37,436	10,606,146	8,608,241	8,051,863
Municipal and school section securities, cash value	....	....	....	1,159,113	1,078,462	1,061,151
Office furniture and fixtures	1,226	2,049	276	30,385	26,851	27,372
Cash on hand	162	601	31	63,768	59,738	74,053
Cash in banks	46,461	141,760	14,074	2,316,875	2,045,685	2,127,308
Office premises	60,948	118,539	7,762	869,650	869,650	751,971
Real estate foreclosed	76,355	....	14,731	†1,574,041	1,092,929	1,091,961
Other property	1,234	31,529	562	4,592,314	3,434,926	2,918,047
Total assets	1,843,707	6,444,219	360,723	99,648,336	89,843,546	87,087,667

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* In six companies the capital authorised is *unlimited*, the capital subscribed in them being $2,415,200 for 1887 and $2,428,250 for 1888.

† This item, though intended for absolute foreclosures and property acquired, has been taken by several companies to include real estate held under power of sale, which is strictly a loan asset.

LOAN AND INVESTMENT COMPANIES.

TABLE No. VI.—Miscellaneous statement of the affairs of 64 Loan and Investment Companies in the Province of Ontario for the year 1888, as required to be furnished by Chapter 169, section 83, *et seq.*, R. S. O., 1887, or by provisions of Special Charters.

Miscellaneous.	Barrie Loan and Savings Company, Barrie.	Hastings Loan and Investment Society, Belleville.	Royal Loan and Savings Company, Brantford.	Chatham Loan and Savings Company, Chatham.	Huron and Bruce Loan and Investment Company, Goderich.	Guelph and Ontario Investment and Savings Society, Guelph.	Hamilton Provident and Loan Society, Hamilton.
Dividend declared in year—							
Rate per cent..................	7.	6½	8.	7.	6.	7.	7.
Amount......................$	8,168	11,814	39,263	5,379	7,147	22,736	77,000
Loaned during year ....$	38,223	40,571	214,873	47,544	34,024	316,010	751,309
Received from borrowers—							
Principal.....................$	40,920	36,242	130,453	25,257	1,300	240,550	825,166
Interest ....$		18,482	70,649	13,324	8,684	71,329	
Received from depositors ....$	61,030	210,165	786,082	380,072	130,911	820,567	1,200,202
Repaid depositors . ...$	60,044	235,301	762,069	364,533	120,845	784,029	1,295,423
Debentures issued ....$	....	....	189,637	....	....	338,210	*455,146
Debentures repaid..............$	....	....	119,802	....	....	368,591	223,636
Debentures to mature within one year ....$	....	....	98,050	....	....	255,817	259,986
Average rate of interest—							
For debentures ....p.c.	....	....	4.92	....	.... ..	4.81	4.66
For deposits ....p.c.	4.00	4.50	4.00	4.05	4.00	3.66	3.85
Interest paid and accrued—							
On debentures ....$	... .	....	12,361	....	....	13,642	51,170
On deposits ....$	1,358	5,577	15,025	7,256	2,580	12,301	38,356
Cost of management............$	701	2,904	6,039	3,429	1,354	6,235	38,699
Invested and secured by mortgage –							
In Ontario ....$	171,189	315,792	1,201,365	250,778	181,337	1,203,150	3,180,606
Elsewhere.....................$	....	....	....	....	....	....	139,462
Mortgages by instalments .. ...$	.. ..	....	30,674	41,446	....	198,179	2,033,047
Mortgages at stated period......$	171,189	315,792	1,170,691	209,332	181,337	1,004,971	1,287,021
Average rate of interest on total amount secured by mortgages p.c	7.00	6.84	6.62	7.12	6.50	6.52	6.56
Average rate of interest on amount loaned on mortgages in year.p.c.	7.00	6.50	6.59	7.20	6.50	6.35	6.78
Cash value of all investments....$	171,189	319,202	1,229,506	251,320	190,076	1,283,702	3,627,371
Mortgages on which compulsory proceedings have been taken—							
Number	3	5	12	3	....	3	52
Amount ....$	5,149	18,100	40,565	6,822	....	8,490	104,454
Value of mortgaged property held for sale ....$	7,300	20,300	25,300	10,600	....	....	40,328
Amount chargeable against such property ....$	5,149	13,100	21,270	8,892	....	....	38,378

NOTE.—Cost of management includes commission, agency, and all other expenses at head office or elsewhere, not directly chargeable to or on account of borrowers.

* Including debenture stock bearing interest at 4 per cent.

LOAN AND INVESTMENT COMPANIES.

TABLE NO. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	Hamilton Homestead Loan and Savings Society, Hamilton.	Landed Banking and Loan Company, Hamilton.	Frontenac Loan and Investment Society, Kingston.	Ontario Building and Savings Society, Kingston.	Agricultural Savings and Loan Company, London.	Canadian Savings and Loan Company, London.	Dominion Savings and Investment Society, London.
Dividend declared in year—							
Rate per cent	....	6.	6.	6.	7.	7.	6.
Amount $	....	33,455	12,000	15,000	43,304	47,743	55,646
Loaned during year $	17,032	341,688	70,772	135,367	216,853	190,843	391,896
Received from borrowers—							
Principal $	....	319,519	73,220	141,322	334,654	344,139	662,833
Interest $	4,524						
Received from depositors $	†17,991	1,206,959	317,820	349,465	712,605	1,145,392	782,617
Repaid depositors $	†17,474	1,157,284	333,023	351,331	768,136	1,194,518	914,562
Debentures issued $	....	144,128	....	....	111.194	24,286	67,608
Debentures repaid $	....	76,700	....	....	86,465	23,986	65,276
Debentures to mature within one year $	....	66,079	....	....	80,160	57,886	47,840
Average rate of interest—							
For debentures p.c.	....	5.34	....	....	4.86	4.89	4.75
For deposits p.c.	....	4.34	3.58	3.58	4.21	4.30	4.50
Interest paid and accrued—							
On debentures $	....	12,428	....	....	14,357	8,853	20,336
On deposits $	....	20,403	8,848	6,036	22,947	28,185	27,871
Cost of management $	1,068	13,135	4,067	2,635	9,839	9,204	12,053
Invested and secured by mortgage—							
In Ontario $	94,368	1,293,198	253,532	398,970	1,487,964	1,511,519	1,866,342
Elsewhere $	....	176,841	138,902	....	....	.. ..	....
Mortgages by instalments $	94,368	791,356	369,334	139,703	42,064	24,664	188,482
Mortgages at stated period $	....	678,683	23,100	259,267	1,445,900	1,486,855	1,677,860
Average rate of interest on total amount secured by mortgages p.c.	6.00	6.89	7.25	6.32	6.61	6.74	6.75
Average rate of interest on amount loaned on mortgages in year p.c.	6.00	6.62	6.00	6.20	6.44	6.69	6.50
Cash value of all investments $	94,368	1,496,805	488,506	443,127	1,516,175	1,675,853	1,930,299
Mortgages on which compulsory proceedings have been taken—							
Number	....	13	....	14	14	7	63
Amount $	....	31,838	....	35,868	23,145	38,218	113,250
Value of mortgaged property held for sale $	....	53,200	68,000	31,600	19,936	37,100	137,500
Amount charegable against such property $	....	45,321	66,677	31,822	19,936	30,602	130,450

† Members only for dues and withdrawals.

LOAN AND INVESTMENT COMPANIES.

TABLE No. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	Empire Loan Company of Canada, London.	Huron and Erie Loan and Savings Company, London.	London Loan Company of Canada, London.	London Stock Company of Ontario, London.	* Ontario Investment Association, London.	Ontario Loan and Debenture Company, London.	Royal Standard Loan Company of Canada, London.
Dividend declared in year—							
Rate per cent	6.	9.	7.	....	....	7.	6.
Amount....................$	5,709	99,000	43,638	....	....	84,000	10,340
Loaned during year............$	53,844	736,594	200,805	100	42,496	619,880	23,670
Received from borrowers—							
Principal....................$	23,979	724,411	252,551	1,706	485,387	654,859	43,781
Interest....................$	14,104		81,920	....			25,202
Received from depositors........$	209,445	954,507	882,163	....	380	574,615	287,098
Repaid depositors..............$	198,435	1,006,724	857,780	550	9,390	596,703	309,570
Debentures issued.............$	....	204,037	39,300	....	55,000	316,427	....
Debentures repaid ....$	....	39,693	86,340	....	471,380	225,123	1,000
Debentures to mature within one year......................$	....	164,090	67,200	....	1,261,683	225,035	....
Average rate of interest—							
For debentures.............p.c.	....	4.59	5.42	....	4.80	4.69	5.00
For deposits...... ....p.c.	4.60	4.00	4.66	....	....	4.22	4.33
Interest paid and accrued—							
On debentures................$	....	49,513	13,052	....	69,142	73,747	895
On deposits..................$	4,839	43,476	16,508	....	327	18,504	6,987
Cost of management.. ....$	2,597	18,664	5,743	....	6,317	24,113	2,173
Invested and secured by mortgage—							
In Ontario ....$	177,327	3,663,068	1,205,618	....	1,019,716	3,341,030	344,670
Elsewhere....................$	....	....	....	....	19,535	....	....
Mortgages by instalments. .....$	89,010	93,870	618,600	....	....	1,705,083	3,099
Mortgages at stated period .....$	88,317	3,569,198	587,018	....	1,039,251	1,635,947	341,571
Average rate of interest on total amount secured by mortgage ....p.c.	7.00	6.58	6.50	....	6.25	6.55	....
Average rate of interest on amount loaned on mortgages in year............. .....p.c.	6.75	6.10	6.50	....	....	6.40	6.50
Cash value of all investments ...$	221,813	3,742,158	1,239,847	40,000	1,339,631	3,460,124	375,577
Mortgages on which compulsory proceedings have been taken—							
Number..........................	....	13	3	....	....	14	1
Amount.......................$	....	59,748	9,451	....	....	41,621	3,000
Value of mortgaged property held for sale......................$	....	17,500	13,000	....	89,693	32,000	5,500
Amount chargeable against such property ....$	....	17,500	16,575	....	89,693	23,829	5,500

* In liquidation.

LOAN AND INVESTMENT COMPANIES.

TABLE NO. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	Orangeville Building and Loan Association, Orangeville.	Ontario Loan and Savings Company, Oshawa.	Civil Service Building and Savings Society, Ottawa.	Metropolitan Loan and Savings Company, Ottawa.	Central Canada Loan and Savings Company, Peterborough.	Peterboro' Real Estate Investment Company, Peterborough.	Crown Savings and Loan Company, Petrolea.
Dividends declared in year—							
Rate per cent	6.	7.	6.	6.	6.	5.	6½.
Amount ....$	1,234	20,949	3,110	18,635	30,000	17,373	6,982
Loaned during year. .. .. $	6,477	88,895	1,260	57,777	713,401	208,635	24,231
Received from borrowers—							
Principal.................... .$	1,681	113,167	18,878	57,914	784,497	289,719	13,701
Interest ....$	1,379	50,721		19,767	82,042	77,972	10,232
Received from depositors ....$	....	298,528	....	34,955	378,580	....	28,426
Repaid depositors ....$	....	336,368	....	37,788	541,454	....	24,385
Debentures issued ....$	....	74,592	....	....	72,340	192,355	....
Debentures repaid..............$	....	57,631	....	....	....	236,471	....
Debentures to mature within one year ....$	....	....	....	....	....	244,610	....
Average rate of interest—							
For debentures.............p.c.	....	5.00	....	....	4.87	4.84	....
For deposits ....p.c.	....	4.25	....	4.00	4.33	....	4.50
Interest paid and accrued—							
On debentures ....$	....	10,750	....	....	8,382	48,032	....
On deposits ....$	....	7,253	....	991	17,696	....	1,239
Cost of management .... $	126	5,814	831	2,440	5,533	12,279	1,043
Invested and secured by mortgage—							
In Ontario ....$	23,253	784,106	41,079	261,701	780,213	1,231,647	138,954
Elsewhere....................$	....	....	....	....	....	....	....
Mortgages by instalments........$	6,094	490,369	17,091	261,701	....	3,080	65,974
Mortgages at stated period......$	17,159	293,737	23,988	....	780,213	1,228,567	72,980
Average rate of interest on total amount secured by mortgage. .... p.c.	7.00	6.50	7.50	6.50	6.40	6.49	7.20
Average rate of interest on amount loaned on mortgages in year ....p.c.	7.00	6.50	7.50	7.00	6.05	6.16	7.37
Cash value of all investments....$	23,253	899,818	41,079	394,905	1,191,424	1,278,490	146,460
Mortgages on which compulsory proceedings have been taken—							
Number	....	3	1	....	....	4	3
Amount.....................$	....	7,000	2,370	....	....	20,028	2,592
Value of mortgaged property held for sale ....$	....	60,000	....	110,000	....	27,744	... ...
Amount chargeable against such property. ....$	.. ..	50,000	....	91,787	....	27,744	......

LOAN AND INVESTMENT COMPANIES.

TABLE NO. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	Midland Loan and Savings Company, Port Hope.	Security Loan and Savings Company, St. Catharines.	Elgin Loan, and Savings Company, St. Thomas.	Southern Loan and Savings Company, St. Thomas.	South-western Farmers' and Mechanics' Savings and Loan Society, St. Thomas.	Star Loan Company, St. Thomas.	St. Thomas Loan Company, St. Thomas.
Dividend declared in year—							
Rate per cent	7.	7.	6.	7.	7.	6.	6.
Amount $	20,312	19,191	9,407	28,000	9,318	9,407	779
Loaned during year $	153,444	149,603	19,701	83,532	36,767	44,924	34,987
Received from borrowers—							
Principal $	94,103	132,216	44,176	70,204	56,502	21,840	2,882
Interest $	52,001		17,411	36,256		15,327	375
Received from depositors $	476,874	302,551	219,121	362,411	119,846	126,228	....
Repaid depositors $	493,049	316,056	228,349	329,875	123,504	111,072	....
Debentures issued $	245,176	20,867	....	....	....	....	....
Debentures repaid $	229,824	10,113	....	....	....	....	....
Debentures to mature within one year $	213,736	7,000	....	....	....	....	....
Average rate of interest—							
For debentures p.c.	4.76	4.73	....	....	....	....	....
For deposits p.c.	3.94	4.00	4.00	4.07	4.00	4.28	....
Interest paid and accrued—							
On debentures $	14,252	579	....	....	....	....	....
On deposits $	10,477	10,629	4,519	10,461	3,843	4,410	....
Cost of management $	6,676	4,345	1,826	4,387	1,995	2,131	105
Invested and secured by mortgage—							
In Ontario $	899,308	580,052	281,847	707,110	234,132	276,138	32,540
Elsewhere $	....	....	....	....	....	....	....
Mortgages by instalments $	32,645	353,294	200,156	446,250	159,913	....	27,813
Mortgages at stated period $	866,663	226,758	81,691	260,860	74,219	276,138	4,727
Average rate of interest on total amount secured by mortgage p.c.	6.57	6.20	6.50	6.40	7.50	6.60	7.10
Average rate of interest on amount loaned on mortgages in year p.c.	6.66	6.50	6.50	6.50	6.50	6.50	7.10
Cash value of all investments $	929,031	594,504	298,396	715,516	236,892	287,084	33,140
Mortgages on which compulsory proceedings have been taken—							
Number	1	16	6	16	4	2	....
Amount $	1,500	30,841	25,242	19,530	4,600	1,300	....
Value of mortgaged property held for sale $	22,873	33,317	12,000	2,023	4,800	....	....
Amount chargeable against such property $	25,873	33,317	11,233	2,023	4,600	....	....

LOAN AND INVESTMENT COMPANIES.

TABLE NO. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	Huron and Lambton Loan and Savings Company, Sarnia.	Lambton Loan and Investment Company, Sarnia.	British Mortgage Loan Company, Stratford.	Bristol and West of England Canadian Land, Mortgage and Investment Co., Toronto.	British Canadian Loan and Investment Company, Toronto.	Building and Loan Association, Toronto.	Canadian Homestead Loan and Savings Company, Toronto.
Dividend declared in year—							
Rate per cent	7.	8.	7.	8.	7.	6.	....
Amount $	22,728	33,246	20,480	10,639	22,570	45,000	....
Loaned during year $	94,386	212,760	127,811	229,431	182,006	289,973	15,600
Received from borrowers—							
Principal $	70,604	244,900	168,655	228,373	171,374	328,261	......
Interest $	38,670			82,431	99,750		2,298
Received from depositors $	327,617	680,597	436,212	....	....	753,503	21,856
Repaid depositors $	314,614	830,738	441,252	....	163	826,273	8,630
Debentures issued $	....	137,434	....	72,270	157,248	69,931	....
Debentures repaid $	....	25,108	....	63,997	133,046	46,887	....
Debentures to mature within one year $	....	23,800	....	291,888	209,413	216,143	....
Average rate of interest—							
For debentures p.c.	....	4.75	....	4.50	4.93	4.78	......
For deposits p c.	4.50	3.50	4.00	....	4.43	3.43	....
Interest paid and accrued—							
On debentures $	....	6,360	....	47,918	58,069	26,292	....
On deposits $	10,864	18,521	13,797	....	570	8,358	....
Cost of management $	4,639	5,109	4,541	18,939	14,839	13,135	1,139
Invested and secured by mortgage—							
In Ontario $	543,394	1,141,054	694,702	1,139,383	1,240,073	1,207,576	45,400
Elsewhere $	....	4,898	....	....	251,434	288,964	....
Mortgages by instalments $	....	....	1,470	304,237	610,140	90,437	45,400
Mortgages at stated period $	543,394	1,145,952	693,232	835,146	881,367	1,406,103	....
Average rate of interest on total amount secured by mortgage p.c.	6.87	6.62	6.44	7.00	6.88	6.43	6.00
Average rate of interest on amount loaned on mortgages in year p.c.	6.75	6.25	6.50	6.90	7.00	6.50	6.00
Cash value of all investments $	644,296	1,245,914	695,153	1,236,048	1,598,284	1,695,505	54,791
Mortgages on which compulsory proceedings have been taken—							
Number	....	7	15	4	8	8	....
Amount $	....	10,258	52,310	9,558	12,752	14,881	....
Value of mortgaged property held for sale $	....	3,500	22,538	38,500	95,000	61,937	....
Amount chargeable against such property $	....	3,000	22,538	31,061	93,799	61,937	....

LOAN AND INVESTMENT COMPANIES.

TABLE No. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	Canada Landed Credit Company, Toronto.	Canada Permanent Loan and Savings Company, Toronto.	Dovercourt Land, Building and Savings Company, Toronto.	Farmers' Loan and Savings Company, Toronto.	Freehold Loan and Savings Company, Toronto.	Home Savings and Loan Company, Toronto.
Dividend declared in year—						
Rate per cent	7.	12.	7.	7.	10.	7.
Amount. ....$	46,480	276,000	4,427	42,800	120,000	10,500
Loaned during year ....$	237,547	2,122,103	....	308,119	823,144	1,387,119
Received from borrowers—						
Principal....................$	176,629	1,910,937	....	244,630	903,783	1,383,062
Interest ....$	148,571			94,229		72,850
Received from depositors .....$	....	301,585	....	737,624	477,226	3,407,775
Repaid depositors.............$	....	353,750	....	778,701	753,907	3,467,992
Debentures issued ....$	373,753	*1,081,732	....	134,686	819,185	... .
Debentures repaid.............$	323,635	347,860	....	8,707	223,633	....
Debentures to mature within one year ....$	284,693	1,008,218	....	7,827	402,087	....
Average rate of interest—						
For debentures ....p.c.	4.59	4.33	....	5.33	4.67	....
For deposits ....p.c.	....	3.90	....	4.25	4.00	4.00
Interest paid and accrued—						
On debentures...............$	70,283	219,339	....	11,770	110,636	....
On deposits ....$	....	42,621	....	27,889	41,429	56,882
Cost of management...........$	21,691	96,753	2,327	9,643	48,338	15,594
Invested and secured by mortgage—						
In Ontario ....$	1,707,684	8,670,040	82,610	1,563,929	3,964,729	705,067
Elsewhere...................$	469,521	1,297,179	....	14,239	1,099,029	....
Mortgages by instalments......$	715,985	8,057,441	82,610	672,843	5,063,758	202,475
Mortgages at stated period.....$	1,461,220	1,909,778	....	905,325	....	502,592
Average rate of interest on total amount secured by mortgage ....p.c.	7.00	6.85	7.00	7.00	6.97	6.13
Average rate of interest on amount loaned on mortgages in year.................p.c.	6.75	6.82	7.00	6.50	6.75	6.13
Cash value of all investments..$	2,204,827	10,586,619	122,778	1,630,085	5,393,854	1,794,132
Mortgages on which compulsory proceedings have been taken—						
Number.....	51	122	....	20	27	1
Amount ....$	74,752	181,245	....	60,656	102,003	2,474
Value of mortgaged property held for sale...............$	87,315	563,135	....	85,000	303,913	....
Amount chargeable against such property ....$	108,308	427,928	....	69,526	307,400	....

* Including debenture stock bearing interest at 4 per cent.

LOAN AND INVESTMENT COMPANIES.

TABLE NO. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	Imperial Loan and Investment Company, Toronto.	Land Security Company, Toronto.	London and Canadian Loan and Agency Company, Toronto.	London and Ontario Investment Company, Toronto.	National Investment Company of Canada, Toronto.	North British Canadian Investment Company, Toronto.
Dividend declared in year—						
Rate per cent	7.	10.	10.	7.	6.	5.
Amount $	43,885	38,511	70,000	34,583	25,500	24,333
Loaned during year $	469,764	476,965	605,581	320,177	299,236	718,430
Received from borrowers—						
Principal $	253,656	190,113	950,069	392,407	164,441	474,961
Interest $	139,194	45,229			92,625	
Received from depositors $	250,677	277,205	....	....	....	....
Repaid depositors $	264,918	177,493	....	....	....	3,893
Debentures issued $	132,877	251,500	470,417	263,762	199,835	108,906
Debentures repaid $	37,377	202,700	468,121	270,231	94,020	121,032
Debentures to mature within one year $	173,300	103,250	1,046,119	586,584	245,565	357,749
Average rate of interest—						
For debentures p.c.	4.75	5.30	4.68	4.77	4.70	[†] 4.52
For deposits p.c.	4.77	4.75	....	....	....	5.00
Interest paid and accrued—						
On debentures $	56,020	16,975	158,488	106,340	50,526	84,434
On deposits $	6,738	27,189	....	....	....	....
Cost of management $	15,779	15,297	44,070	32,757	13,938	19,817
Invested and secured by mortgage—						
In Ontario $	1,622,428	837,649	3,739,168	2,604,140	1,102,360	1,124,252
Elsewhere $	142,029	....			369,860	1,011,961
Mortgages by instalments $	444,845	248,391	....	....	45,024	5,710
Mortgages at stated period $	1,319,612	589,258	3,739,168	2,604,140	1,427,196	2,130,503
Average rate of interest on total amount secured by mortgage p.c.	6.75	[*]	6.75	6.92	6.97	[‡]
Average rate of interest on amount loaned on mortgages in year p.c.	6.75	7.00	6.50	6.92	6.49	....
Cash value of all investments $	3,826,000	1,705,595	4,604,610	2,892,589	1,566,069	2,430,941
Mortgages on which compulsory proceedings have been taken—						
Number	6	11	46	23	2	46
Amount $	20,500	13,709	90,486	37,852	3,700	86,006
Value of mortgaged property held for sale $	13,500	15,300	202,233	120,772	57,332	147,047
Amount chargeable against such property $	11,400	13,723	202,233	114,859	57,332	170,670

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[*] 6 p. c. on land sales and 8 p. c. on loans. [†] Debenture stock bears 5 p. c. [‡] From 6 to 8 p. c. in Ontario, and from 8 to 10 p. c. elsewhere.

LOAN AND INVESTMENT COMPANIES.

TABLE NO. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous.	North of Scotland Canadian Mortgage Company, Toronto.	Ontario Industrial Loan and Investment Company, Toronto.	People's Loan and Deposit Company, Toronto.	Real Estate Loan Company of Canada, Toronto.	Scottish Ontario and Manitoba Land Company, Toronto.	Toronto Land and Loan Company, Toronto.	Trust and Loan Company of Canada, Toronto.
Dividend declared in year—							
Rate per cent	10.	7.	7.	....	1½.	7.	6.
Amount $	64,667	21,681	41,480	....	9,125	3,011	94,900
Loaned during year $	486,653	108,974	242,067	20,504	....	9,528	917,430
Received from borrowers—							
Principal $	388,242	63,571	295,645	20,110	....	10,407	711,814
Interest $		10,321		9,233	....	3,552	306,747
Received from depositors $	....	65,237	823,082	....	....	....	....
Repaid depositors $	....	90,865	851,809	....	....	....	....
Debentures issued $	703,301	....	10,900	....	55,962	....	199,144
Debentures repaid $	610,363	....	11,700	....	59,617	....	75,093
Debentures to mature within one year $	450,819	....	6,700	....	95,922	....	1,294,391
Average rate of interest—							
For debentures p.c.	4.13	....	5.43	....	4.87	7.00	4 36
For deposits p.c.	....	5.00	4.36	....	5.00	....	....
Interest paid and accrued—							
On debentures $	105,434	....	4,779	....	17,382	109	188,608
On deposits $	....	4,951	20,727	....	....	....	....
Cost of management $	45,823	7,202	7,506	4,149	8,111	1,723	69,263
Invested and secured by mortgage—							
In Ontario $	3,158,877	193,911	1,254,446	28,509	145,533	57,777	2,525,231
Elsewhere $	....	....	....	207,160	93,438	....	2,308,757
Mortgages by instalments $	....	....	69,701	....	238,971	57,777	....
Mortgages at stated period $	3,158,877	198,911	1,184,745	235,669	....	....	4,833,988
Average rate of interest on total amount secured by mortgage p.c.	6.85	6.25	7.00	7.00	*	7.00	6.58
Average rate of interest on amount loaned on mortgages in year p.c.	6.50	6 00	7.00	6.50	*	7.00	6.50
Cash value of all investments $	3,457,686	649,647	1,263,849	483,471	1,264,562	103,416	6,086,960
Mortgages on which compulsory proceedings have been taken—							
Number	22	2	13	....	....	....	43
Amount $	32,756	12,689	73,278	....	....	....	44,087
Value of mortgaged property held for sale $	38,794	....	22,000	....	79,020	....	46,935
Amount chargeable against such property $	38,794	....	18,926	....	63,860	....	55,355

* From 6 to 7 p. c.

LOAN AND INVESTMENT COMPANIES.

TABLE NO. VI.—Miscellaneous statement of the affairs of Loan and Investment Companies, etc.—*Continued.*

Miscellaneous	Union Loan and Savings Company, Toronto.	Western Canada Loan and Savings Company, Toronto.	Oxford Permanent Loan and Savings Company, Woodstock.	Totals.	Totals for the 55 companies reporting both years. 1888.	1887.
Dividend declared in year—						
Rate per cent	8.	10.	7.	.....	.....	.....
Amount $	51,857	141,855	16,080	2,152,377	2,035,446	2,021,207
Loaned during year $	435,998	1,303,682	14,938	18,567,954	17,049,796	17,162,412
Received from borrowers—						
Principal $	467,659	1,250,667	27,733	20,393,404	18,839,040	18,987,927
Interest $			19,571			
Received from depositors $	446,441	513,533	103,808	23,001,584	22,918,698	25,283,071
Repaid depositors $	531,412	586,319	96,277	24,261,630	24,188,350	25,283,441
Debentures issued $	235,598	708,033	.....	8,736,777	7,958,544	6,263,884
Debentures repaid $	75,622	423,488	.....	5,944,268	5,123,871	4,346,294
Debentures to mature within one year $	107,251	567,092	.....	10,527,983	9,033,705	5,777,979
Average rate of interest—						
For debentures p.c.	4.75	4.44	.....	.....	.....	.....
For deposits p.c.	4 00	4.00	4.50	.....	.....	.....
Interest paid and accrued—						
On debentures $	21,212	124,276	.....	1,906,741	1,592,484	1,552,621
On deposits $	16,761	50,572	3,865	710,636	708,708	685,138
Cost of management $	13,861	59,864	2,459	838,906	749,158	685,905
Invested and secured by mortgage—						
In Ontario $	1,709,598	5,010,402	328,192	*86,728,523	78,776,916	75,494,963
Elsewhere $	.....	1,108,581	.....			
Mortgages by instalments $	709,598	6,118,983	24,534	32,337,689	31,406,575	30,001,162
Mortgages at stated period $	1,000,000	.....	303,658	54,390,834	47,370,341	45,493,801
Average rate of interest on total amount secured by mortgage p.c.	7.00	6.43	7.75	.....	.....	.....
Average rate of interest on amount loaned on mortgages in year p.c.	6.75	6.75	6.50	.....	.....	.....
Cash value of all investments $	1,733,675	6,444,219	360,723	99,982,939	90,218,953	85,205,254
Mortgages on which compulsory proceedings have been taken—						
Number	10	55	2	820	736	688
Amount $	16,200	220,716	7,300	1,834,890	1,673,103	1,419,012
Value of mortgaged property held for sale $	76,355	219,689	14,731	3,196,160	2,719,277	2,491,788
Amount chargeable against such property $	76,355	194,474	14,731	2,969,480	2,493,399	2,190,465

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*Several companies have here erroneously included loans on shareholders' stock, etc., and real estate foreclosed.

ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES

FOR THE

PROVINCE OF ONTARIO,

1888.

PART VI.—MUNICIPAL STATISTICS.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.

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1889.

CONTENTS.

PAGE
LETTER OF TRANSMISSION. 1

PART VI.—MUNICIPAL STATISTICS. 3

ASSESSMENT AND TAXATION:

TABLE NO. I.—Summary statement for the Province of the Population and Area of local municipalities in Ontario as shown by the assessment rolls, and of assessed Values and amount of Taxes imposed as shown by the collection rolls, together with the average rate of taxes per head of population and the rate in mills on the dollar of assessed value for the three years 1885, 1886 and 1887, classified by townships, cities, towns and villages 4

TABLE NO. II.—Summary statement by Counties of the Population and Area of local municipalities in Ontario as shown by the assessment rolls, and of assessed Values and amount of Taxes imposed as shown by the collection rolls, together with the average rate of taxes per head of population and the rate in mills on the dollar of assessed value for the three years 1885, 1886 and 1887, classified as rural and urban........... 5

TABLE NO. III.—Detailed statement of the Population and Area of local municipalities in Ontario as shown by the assessment rolls, and of assessed Values and amount of Taxes imposed as shown by the collection rolls, together with the average rate of taxes per head of population for the year 1887, arranged by Counties and classified as rural and urban.... 15

FINANCIAL STATEMENT—RECEIPTS, EXPENDITURE, ASSETS AND LIABILITIES:

TABLE NO. IV.—Comparative summary statement of Receipts, Expenditure, Assets and Liabilities of the municipalities in the Province of Ontario, classified by counties, townships, cities and towns and villages, for the calendar years 1886 and 1887 31

TABLE NO. V.—Summary statement showing details of Receipts, Expenditure, Assets and Liabilities of the municipalities in the Province of Ontario, classified by counties, townships, cities and towns and villages, for the year ending December 31, 1887 32

TABLE NO. VI.—Summary statement showing details of Receipts, Expenditure, Assets and Liabilities of the municipalities in the Province of Ontario, classified by counties, townships, cities and towns and villages, for the year ending December 31, 1886.............. 34

TABLE NO. VII.—Detailed statement of Receipts, Expenditure, Assets and Liabilities of the County Municipalities in the Province of Ontario for the year ending December 31, 1887.. 36

TABLE NO. VIII.—Detailed statement of Receipts, Expenditure, Assets and Liabilities of the County Municipalities in the Province of Ontario for the year ending December 31, 1886.. 44

TABLE NO. IX.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Township Municipalities in the Province of Ontario, grouped by counties, for the year ending December 31, 1887 52

TABLE NO. X.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Township Municipalities in the Province of Ontario, grouped by counties, for the year ending December 31, 1886 60

TABLE NO. XI.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Town and Village Municipalities in the Province of Ontario, grouped by counties, for the year ending December 31, 1887........... 68

TABLE NO. XII.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Town and Village Municipalities in the Province of Ontario, grouped by counties, for the year ending December 31, 1886............. 76

TABLE NO. XIII.—Detailed statement of Receipts, Expenditure, Assets and Liabilities for the City Municipalities in the Province of Ontario for the year ending December 31, 1887.... 84

TABLE NO. XIV.—Detailed statement of Receipts, Expenditure, Assets and Liabilities for the City Municipalities in the Province of Ontario for the year ending December 31, 1886..... 84

TABLE NO. XV.—Comparative summary statement by Counties of Receipts (taxes and all other), Expenditure, Assets and Liabilities (bonded and floating) of the municipalities in the Province of Ontario, classified by counties, townships, cities and towns and villages, for the calendar years 1886 and 1887.. 92

SCHEDULES TO MUNICIPAL OFFICERS: 101

Extracts from the Municipal Act, 101—Declarations of clerk and treasurer, 101—Schedule to (1) Municipal clerks, 102, (2) County treasurers, 102, (3) Township treasurers, 104, and (4) City, town and village treasurers, 105.

SEVENTH ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES.

PART VI.

To the Honorable Charles Drury, Minister of Agriculture :

Sir,—I have the honor to present herewith for the purpose of having laid before the Legislative Assembly, as required by sections 248 and 252 of the Revised Statutes of Ontario, 1887, tabulated statements of the Population, Area and Assessed Values of Local Municipalities in the Province, and the amount of Taxes imposed thereon, together with the Receipts, Expenditure, Assets and Liabilities of Local and County Municipalities, for the years 1886 and 1887.

The returns for 1887 are incomplete in the following respects, viz :

(1) For the municipalities of the townships of Sheffield, Mountain, Huntley, Westmeath, Somerville, Mattawan and Widdifield, and the village of Rockland, no statements have been received from the treasurers.

(2) For the municipalities of the townships of Sandwich West and Plantagenet North, and the village of Wroxeter, imperfect statements have been received from the treasurers.

In all those cases repeated requests have been made of the treasurers of the municipalities for returns as required by section 252 of the Municipal Act, and I have this day certified their delinquency to the Provincial Treasurer for his action as provided in subsection 3 of said section 252.

I have the honor to be, Sir,
Your obedient servant,

A. BLUE,
Secretary.

Toronto, March 21, 1889.

STATISTICS OF

ONTARIO MUNICIPALITIES.

ASSESSMENT AND TAXATION.

TABLE No. I.—Summary statement for the Province of the Population and Area of local municipalities in Ontario as shown by the assessment rolls, and of assessed Values and amount of Taxes imposed as shown by the collection rolls, together with the average rate of taxes per head of population and the rate in mills on the dollar of assessed value for the three years 1885, 1886 and 1887, classified by townships, cities, towns and villages.

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
			Real property.	Personal property.	*Taxable income.	Total.	Per head of population.	Mills on the dollar.
1885.			$	$	$	$	$ c.	
Townships	1,129,616	21,961,378	419,083,368	27,976,496	....	....	...	......
Towns and villages	370,195	203,031	83,589,851	9,836,186	... .	....	......	......
Cities	290,486	30,723	116,993,015	23,778,876	....	....	......	......
Totals	1,790,297	22,195,132	619,666,234	61,591,558	....	....	......	......
1886.								
Townships	1,148,946	21,995,894	424,630,202	27,369,258	465,330	4,396,829	3 83	9.7
Towns and villages	378,749	202,497	85,843,906	7,619,396	2,341,322	1,822,714	4 81	19.0
Cities	299,305	31,123	121,565,954	16,607,280	7,865,386	2,788,453	9 32	19.1
Totals	1,827,000	22,229,514	632,040,062	51,595,934	10,672,038	9,007,996	4 93	13.0
1887.								
Townships	1,142,542	22,151,055	428,614,686	27,430,483	418,289	4,439,145	3 89	9.7
Towns and villages....	393,956	209,732	91,014,414	7,825,298	2,360,954	1,920,537	4 88	19.0
Cities	311,379	31,793	132,839,465	17,940,795	8,641,490	2,935,329	9 43	18.4
Totals	1,847,877	22,392,580	652,468,515	53,196,576	11,420,733	9,295,011	5 03	13.0

No return received from the village of Rockland, (Russell Co.) incorporated in 1887.

*For 1885, the amount assessed as "Taxable income" is included with "Personal property."

NOTE.—The statistics here given for 1885 include the assessment of all organised municipalities in that year. Former statistics, published in the Annual Report of the Bureau for 1886, only included municipalities connected with counties for municipal purposes, and cities and towns separated from counties. The taxes formerly given did not in all cases include local improvement or special rates.

ASSESSMENT AND TAXATION.

TABLE No. II.—Summary statement by Counties of the Population and Area of local municipalities in Ontario as shown by the assessment rolls, and of assessed Values and amount of Taxes imposed as shown by the collection rolls, together with the average rate of taxes per head of population and the rate in mills on the dollar of assessment value for the three years 1885, 1886 and 1887, classified as rural and urban.

Counties.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
			$	$	$	$	$ c.	
Essex:								
1885 Rural	31,263	427,462	7,380,844	345,174	....	....	....	.....
Urban	14,980	6,585	3,642,342	279,742	....	....	.....	.....
Total	46,243	434,047	11,023,186	624,916	....	....	.....	.....
1886 Rural	30,550	430,419	7,537,751	329,576	8,405	175,998	5 76	22.3
Urban	15,302	6,569	3,734,689	194,933	98,251	84,677	5 53	21.0
Total	45,852	437,018	11,272,440	524,509	106,656	260,675	5 69	21.9
1887 Rural	31,685	431,184	7,932,393	360,881	4,550	185,406	5 85	22.3
Urban	15,710	6,556	3,888,061	186,526	64,710	83,000	5 28	20.1
Total	47,395	437,740	11,820,454	547,407	69,260	268,406	5 66	21.6
Kent:								
1885 Rural	31,766	566,317	17,197,688	958,707	....	....	......	......
Urban	16,611	6,865	4,742,643	472,540	....	....	......	......
Total	48,377	573,182	21,940,331	1,431,247	....	....	......	......
1886 Rural	31,678	568,009	17,538,002	942,574	7,750	195,142	6 16	10.6
Urban	17,024	6,480	4,977,911	408,209	126,530	101,966	5 99	18.5
Total	48,702	574,489	22,515,913	1,350,783	134,280	297,108	6 10	12.4
1887 Rural	30,374	562,140	17,246,080	869,508	1,780	216,202	7 12	11.9
Urban	19,113	7,060	5,267,648	406,440	117,900	116,955	6 12	20.2
Total	49,487	569,200	22,513,728	1,275,948	119,680	333,157	6 73	13.9
Elgin:								
1885 Rural	26,048	440,330	12,635,833	784,804	....	....	......	......
Urban	3,337	2,412	665,612	103,815	....	....	......	......
Total	29,385	442,742	13,301,445	888,619	....	....	......	......
1886 Rural	26,895	439,136	12,615,914	757,513	13,880	141,528	5 26	10.6
Urban	3,574	2,415	695,180	87,515	16,950	12,906	3 61	16.1
Total	30,469	441,551	13,311,094	845,028	30,830	154,434	5 07	10.9
1887 Rural	26,921	435,859	12,564.249	724,320	14,010	139,849	5 19	10.5
Urban	3,577	2,419	717,887	96,230	20,900	13,056	3 65	15.7
Total	30,498	438,278	13,282,136	814,550	34,910	152,905	5 01	10.8
Norfolk:								
1885 Rural	24,335	396,804	8,658,495	674.735	....	....	......	... ...
Urban	5,284	1,706	1,234,702	191,202	....	....	......	......
Total	29,619	398,510	9,893,197	865,937	....	....	......	......
1886 Rural	24,377	398,462	8,747,629	643,227	12,120	77,899	3 20	8.3
Urban	5,300	1,650	1,208,930	113,975	38,249	21,140	3 99	15.5
Total	29,677	400,112	9,956,559	757,202	50,369	99,039	3 34	9.2
1887 Rural	24,192	399,070	8,624.377	623,685	10,450	77,118	3 19	8.3
Urban	5,090	1,659	1,195,988	104,660	53,815	22,290	4 38	16.5
Total	29,282	400,729	9,820,365	728,345	64,265	99,408	3 39	9.4
Haldimand:								
1885 Rural	17,110	279,036	7,196,139	549,993	....	....	.....	......
Urban	3,365	2,289	761,530	95,400	....	....	.....	......
Total	20,475	281,325	7,957,669	645,393	....	....	.....	......

NOTE.—Towns separated from counties for municipal purposes are included in the statistics of the counties in which thev are situated.

TABLE No. II.—ASSESSMENT AND TAXATION—*Continued.*

Counties.		Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
				Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
				$	$	$	$	$	
HALDIMAND.—*Con.*									
1886	Rural	18,185	280,937	7,098,644	564,338	4,650	71,075	3 91	9.3
	Urban	3,861	2,363	801,160	105,495	7,850	14,591	3 78	16.0
	Total	22,046	283,300	7,899,804	669,833	12,500	85,666	3 89	10.0
1887	Rural	17,157	280,238	6,976,822	538,431	7,275	76,528	4 46	10.2
	Urban	4,914	2,727	962,091	117,270	11,300	18,114	3 69	16.6
	Total	22,071	282,965	7,938,913	655,701	18,575	94,642	4 24	10.9
WELLAND:									
1885	Rural	17,384	225,085	6,606,182	598,507	....	....	.....	.....
	Urban	10,912	3,892	3,150,622	401,713	....	....	.....	.....
	Total	28,296	228,977	9,756,804	1,000,220	....	....	.....	.....
1886	Rural	17,811	228,064	6,559,159	528,504	19,780	57,333	3 22	8.1
	Urban	10,815	3,827	3,192,396	297,799	95,578	55,446	5 13	15.5
	Total	28,626	231,891	9,751,555	826,303	115,358	112,779	3 94	10.5
1887	Rural	17,880	228,329	6,608,179	515,875	17,780	70,194	3 93	9.8
	Urban	11,382	3,855	3,272,939	287,197	80,645	63,834	5 61	17.5
	Total	29,262	232,184	9,881,118	803,072	98,425	134,028	4 58	12.4
LAMBTON:									
1885	Rural	30,200	661,536	14,722,263	832,887	....	....	.....	.....
	Urban	17,340	9,579	3,853,682	689,320	....	....	.....	.....
	Total	47,540	671,115	18,575,945	1,522,207	....	....	.....	.....
1886	Rural	30,744	659,398	15,125,116	780,253	5,430	193,157	6 28	12.1
	Urban	17,577	9,651	3,203,775	349,685	128,162	86,906	4 94	23.6
	Total	48,321	669,049	18,328,891	1,129,938	133,592	280,063	5 80	14.3
1887	Rural	32,550	667,695	15,173,342	815,379	5,410	186,511	5 73	11.7
	Urban	17,570	9,487	3,438,398	386,960	130,300	96,894	5 51	24.5
	Total	50,120	677,182	18,611,740	1,202,339	135,710	283,405	5 65	14.2
HURON:									
1885	Rural	49,040	798,450	26,118,454	1,409,556	....	....	.....	.....
	Urban	16,320	7,067	3,410,016	463,605	....	....	.....	.....
	Total	65,360	805,517	29,528,470	1,873,161	....	....	.....	.....
1886	Rural	49,816	798,528	26,477,726	1,307,930	15,300	205,413	4 12	7.4
	Urban	15,949	7,205	3,349,169	357,125	99,050	76,219	4 78	20.0
	Total	65,765	805,733	29,826,895	1,665,055	114,350	281,632	4 28	8.9
1887	Rural	49,778	798,631	26,814,980	1,290,435	12,100	197,409	3 97	7.0
	Urban	16,244	7,305	3,404,125	357,527	108,695	76,792	4 73	19.8
	Total	66,022	805,936	30,219,105	1,647,962	120,795	274,201	4 15	8.6
BRUCE:									
1885	Rural	42,048	825,900	17,326,893	1,124,600	....	....	.....	.....
	Urban	15,553	9,311	2,854,708	458,675	....	....	.....	.....
	Total	57,601	835,211	20,181,601	1,583,275	....	....	.....	.....
1886	Rural	42,565	817,524	17,320,122	1,185,709	1,800	167,126	3 93	9.0
	Urban	16,634	9,623	2,903,067	302,630	68,265	61,059	3 67	18.6
	Total	59,199	827,147	20,223,189	1,488,339	70,065	228,185	3 85	10.5
1887	Rural	42,555	821,905	17,013,131	1,169,119	1,900	167,092	3 93	9.2
	Urban	16,497	10,009	2,993,528	333,820	70,615	63,438	3 85	18.7
	Total	59,052	831,914	20,006,659	1,502,939	72,515	230,530	3 90	10.7
GREY:									
1885	Rural	55,134	1,065,197	15,532,012	1,108,056	....	....	.....	.....
	Urban	8,403	8,420	2,087,869	230,420	....	....	.....	.....
	Total	63,537	1,073,617	17,619,881	1,338,476	....	....	.....	.....

TABLE No. II.—ASSESSMENT AND TAXATION.—*Continued.*

Counties.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
			$	$	$	$	$ c.	
GREY.—*Con.*								
1886 Rural	56,018	1,063,271	15,914,057	1,062,172	4,400	184,197	3 29	10.8
Urban...........	9,175	8,720	2,285,364	157,650	49,150	51,719	5 64	20.8
Total...........	65,193	1,071,991	18,199,421	1,219,822	53,550	235,916	3 62	12.1
1887 Rural	55,165	1,057,104	16,595,963	1,032,182	5,500	191,395	3 47	10.9
Urban...........	9,909	9,500	2,567,773	218,600	58,710	51,084	5 16	18.0
Total...........	65,074	1,066,604	19,163.736	1,250,782	64,210	242,479	3 73	11.8
SIMCOE:								
1885 Rural	48.113	961,347	12,438,475	584,436	....	....	......	.....
Urban...........	21,580	13,637	4,216,455	359,020	....	... .	......	......
Total...........	69.693	974,984	16,654,930	943,456	....	... ...	......	......
1886 Rural	48.571	951,568	12.536,829	630.645	6,600	193,807	3 99	14.7
Urban...........	20,966	13,127	4,331,939	321.848	98,100	102,459	4 89	21.6
Total	69,537	964,695	16,868,768	952,493	104,700	296,266	4 26	16.5
1887 Rural	48,302	966,169	12,931,046	616.002	6,200	188,399	3 90	13.9
Urban...........	21.315	13,767	4.459,331	324,110	96,250	102,111	4 79	20.9
Total...........	69,617	979,936	17,390,377	940,112	102,450	290,510	4 17	15.8
MIDDLESEX:								
1885 Rural	51,303	757,793	22,507.376	696,622	....	....	......	......
Urban......	10,211	5,670	1,932,331	89,000	....	....	......	......
Total...........	61,514	763,463	24,439,707	785,622	....	....	......	......
1886 Rural	52.471	758,804	22.938,008	643,989	10,830	248,459	4 74	10.5
Urban...........	10,391	5,514	1,887,278	67.565	26,740	42,548	4 09	21.5
Total...........	62,862	764,318	24,825,286	711,554	37,570	291,007	4 63	11.4
1887 Rural	51,129	758.554	22,938,401	615,530	7,050	250,015	4 89	10.6
Urban......... .	10,463	5,573	1,994,689	87,470	27,240	42,688	4 08	20.2
Total...........	61,592	764,127	24,933,090	703,000	34,290	292,703	4 75	11.4
OXFORD:								
1885 Rural	29,778	471.664	19,116,046	1,374,258	....	....	......	......
Urban...........	14,425	6,950	3,635,365	295,925	....	....	......	......
Total...........	44,203	478,614	22,751,411	1,670,183	. ...	....	......	......
1886 Rural	29,734	472.009	19,075,619	1,344.010	14,945	145,123	4 88	7.1
Urban...........	15.058	6,759	3,795,485	217,725	100,425	71,174	4 73	17.3
Total...........	44,792	478,768	22,871,104	1,561,735	115,370	216,297	4 83	8.8
1887 Rural	29,920	471.754	19,057,999	1,359,100	19,660	139,760	4 67	6.8
Urban...........	15,975	6.763	4,092,505	239,355	105,500	77,665	4 86	17.5
Total...........	45,895	478.517	23,150,504	1,598,455	125,160	217,425	4 74	8.7
BRANT:								
1885 Rural	16,750	215,826	9,184.292	980,976	....	....	......	......
Urban.	3,316	685	947,794	144,818	....	....	..... .	......
Total...........	20,066	216,511	10,132,086	1,125,794	....	....	......	......
1886 Rural	16,610	215.706	9,242,374	921,366	25,030	56,613	3 41	5.6
Urban.	3,311	685	955.459	127,615	23,540	19,662	5 94	17.8
Total...........	19,921	216,391	10,197,833	1,048,981	48,570	76,275	3 83	6.8
1887 Rural	16,130	217,164	9,304,977	903,458	29.165	58,489	3 63	5.7
Urban...........	3.423	685	979,439	140,488	27,020	21.480	6 28	18.7
Total...........	19,553	217,849	10,284,416	1,043,946	56,185	79,969	4 09	7.0
PERTH:								
1885 Rural	30,801	518,921	17,860,782	873,161	....	....	......	...
Urban.....	9,279	5,617	2,325,281	261,100	.. ..	....	......	......
Total...........	40,080	524,538	20,186,033	1,134,261	....	....	......	......

TABLE No. II.—ASSESSMENT AND TAXATION.—*Continued.*

Counties.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
			$	$	$	$	$ c.	
PERTH.—*Con.*								
1886 Rural	30,643	517,825	17,932,993	768,767	8,946	155,543	5 08	8.3
Urban	9,384	5,628	2,330,613	171,400	39,075	45,381	4 84	17.9
Total	40,027	523,453	20,263,606	940,167	48,021	200,924	5 02	9.5
1887 Rural	30,163	517,843	17,920,080	860,496	7,346	150,605	4 99	8.0
Urban	9,393	5,710	2,366,898	174,400	39,800	45,481	4 84	17.6
Total	39,556	523,553	20,286,978	1,034,896	47,146	196,086	4 96	9.2
WELLINGTON:								
1885 Rural	35,511	626,962	13,945,504	1,214,701	....	....	....	....
Urban	11,931	7,365	2,214,283	259,310	....	....	....	....
Total	47,442	634,327	16,159,787	1,474,011	....	....	....	....
1886 Rural	36,777	627,372	14,790,314	1,206,445	17,941	163,116	4 44	10.2
Urban	12,063	7,360	2,180,663	218,390	47,650	53,985	4 48	22.1
Total	48,840	634,732	16,970,977	1,424,835	65,591	217,101	4 45	11.8
1887 Rural	36,034	627,335	15,482,654	1,326,377	20,706	154,600	4 29	9.2
Urban	12,149	7,277	2,194,296	229,830	36,710	57,033	4 69	23.2
Total	48,183	634,612	17,676,950	1,556,207	57,416	211,633	4 39	11.0
WATERLOO:								
1885 Rural	24,808	306,133	8,518,916	825,296	....	....	....	....
Urban	18,292	9,448	3,553,237	588,125	....	....	....	....
Total	43,100	315,581	12,072,153	1,413,421	....	....	....	....
1886 Rural	25,318	306,712	8,540,110	797,390	33,703	95,928	3 79	10.2
Urban	19,734	9,419	3,763,275	458,045	149,053	83,593	4 24	19.1
Total	45,052	316,131	12,303,385	1,255,435	182,756	179,521	3.98	13.1
1887 Rural	24,492	303,780	8,485,110	788,448	30,917	96,658	3 95	10.4
Urban	21,540	9,876	4,068,910	496,020	143,724	89,744	4 17	19.1
Total	46,032	313,656	12,554,020	1,284,468	174,641	186,402	4 05	13.3
DUFFERIN:								
1885 Rural	16,243	357,661	4,375,035	274,778	....	....	....	....
Urban	3,470	2,380	753,602	73,850	....	....	....	....
Total	19,713	360,041	5,128,637	348,628	....	....	....	....
1886 Rural	16,081	355,369	4,365,610	226,550	1,050	70,389	4 38	15.3
Urban	3,525	2,300	744,625	59,250	15,150	17,014	4 83	20.8
Total	19,606	357,669	5,110,235	285,800	16,200	87,403	4 46	16.1
1887 Rural	16,098	357,691	4,352,802	248,350	650	70,646	4 39	15.3
Urban	4.502	2,305	988,225	83,350	22,420	17,389	3 86	15.9
Total	20,600	359,996	5,341,027	331,700	23,070	88,035	4 27	15.5
LINCOLN:								
1885 Rural	14,584	190,904	4,514,881	292,255	....	....	....	....
Urban	5,441	2,497	1,058,310	78,240	....	....	....	....
Total	20,025	193,401	5,573,191	370,495	....	....	....	....
1886 Rural	14,730	190,578	4,604,505	295,184	10,196	59,430	4 03	12.1
Urban	5,527	2,494	1,210,792	46,490	15,700	22,584	4 09	17.7
Total	20,257	193,072	5,815,297	341,674	25,896	82,014	4 05	13.3
1887 Rural	14,377	191,232	6,365,129	487,241	12,817	59,413	4 13	8.7
Urban	5,561	2,433	1,232,963	61,900	18,014	21,610	3 89	16.5
Total	19,938	193,665	7,598,092	549,141	30,831	81,023	4 06	9.9
WENTWORTH:								
1885 Rural	24,369	274,307	10,925,888	712,383	....	....	....	....
Urban	4,435	900	1,049,015	116,890	....	....	....	....
Total	28,804	275,207	11,974,903	829 273	....	....	....	....

TABLE No. II.—ASSESSMENT AND TAXATION.—*Continued.*

Counties.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
			$	$	$	$	$ c.	
WENTWORTH—*Con.*								
1886 Rural	24,865	272,071	10,886,458	674,149	25,330	70,458	2 83	6.1
Urban	4,624	886	1,050,645	100,580	24,150	22,645	4 90	19.3
Total	29,489	272,957	11,937,103	775,029	49 480	93,103	3 16	7.3
1887 Rural	24,112	272,506	10,927,359	685,470	25,070	72,223	3 00	6.2
Urban	4,734	840	1,014,580	97,535	34,950	21,843	4 61	18.6
Total	28,846	273,346	11,971,939	783.005	60,020	94,066	3 26	7.3
HALTON:								
1885 Rural	14,160	224,723	7,360,355	613,970	....	....	.....	......
Urban	6,573	3,723	1,308,685	112,961	....	....	......	......
Total	20,733	228,446	8,669,040	726,931	....	....	......	......
1886 Rural	14,239	222,840	7,330,235	637,120	7,513	60,169	4 23	7.5
Urban	6,833	3,748	1,345,112	101,055	14,030	25,962	3 80	17.8
Total	21,072	226,588	8,675,347	738,475	21,543	86,131	4 09	9.1
1887 Rural	13,887	224,375	7,413,766	594,428	9,315	62,592	4 51	7.8
Urban	6,813	3,723	1,433,465	137,405	15,159	27,891	4 09	17.6
Total	20,700	228,098	8,847,231	731,833	24,474	90,483	4 37	9.4
PEEL:								
1885 Rural	17.944	287,995	9,042,965	562,030	....	....	......	......
Urban	4.691	2.491	1,054,566	142,950	....	....	......	......
Total	22,635	290,489	10,097,531	704,980	....	....	....	......
1886 Rural	18,756	288,337	9,047,100	567,715	3.200	68,224	3 64	7.1
Urban	4,795	2,228	1,081,892	90.445	28,400	28,417	5 93	23.7
Total	23,551	290,565	10,128,992	658,160	31,600	96,641	4 10	8.9
1887 Rural	18,593	288,555	9,045,530	567,390	4,300	71,065	3 82	7.4
Urban	4,850	2,344	1,128,860	75,875	22,104	28,946	5 97	23.6
Total	23,443	290,899	10,174,390	643,265	26,404	100,011	4 27	9.2
YORK:								
1885 Rural	43,441	541,516	23,518,287	1,241,190	....	....	......	......
Urban	12,068	6,464	3,515,457	194,345	....	....	......	......
Total	55,509	547,980	27,033,741	1,435,535	....	....	......	......
1886 Rural	43,974	539,397	24,175,136	1,160,290	32,250	146,272	3 33	5.8
Urban	12,569	6,458	3,783,602	179,580	28,050	71,433	5 68	17.9
Total	56,543	545,855	27,958,738	1,339,870	60,300	217,705	3 85	7.4
1887 Rural	43.320	538,357	25,161,137	1,124.815	29,000	160,498	3 70	6.1
Urban	13.068	6,692	4,330,383	186,175	43,600	91,678	7 02	20.1
Total	56,388	545,049	29,491,520	1,310,990	72,600	252,176	4 47	8.2
ONTARIO:								
1885 Rural	32,555	496.283	15,772,969	1,014,135	....	....	......	.. .
Urban	12,881	7,984	2,963,769	232.368	....	....	......	......
Total	45,436	504,267	18,736.738	1,246,503	....	....	......	......
1886 Rural	32,640	500,648	15,802,074	1,054,430	22,030	111,889	3 43	6.6
Urban	13,102	7,991	3,045,804	173,310	58,255	62,538	4 77	19.1
Total	45,742	508,639	18,847,878	1,227,740	80,285	174,427	3 81	8.6
1887 Rural	32,193	499,132	15.792.740	1,018,340	16,800	116,835	3 63	6.9
Urban	12,822	7,996	3.078,799	178,375	57,030	68,948	5 38	20.8
Total	45,015	507,128	18,871,539	1.196,715	73,830	185,783	4 13	9.2
DURHAM:								
1885 Rural	21,895	366,490	10,644.351	554,354	....	....	......	......
Urban	11,001	6,396	2,556,048	375,825	....	....	......	......
Total	32,896	372,886	13,200,399	930,179	....	....	......	......

TABLE No. II.—ASSESSMENT AND TAXATION.—*Continued.*

Counties.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
			$	$	$	$	$ c.	
DURHAM—*Continued.*								
1886 Rural	21,778	370,455	10,572,548	568,255	34,515	73,181	3 36	6.5
Urban	11,047	6,351	2,569,943	360,094	142,524	57,698	5 22	18.8
Total	32,825	376,806	13,142,491	928,349	177,039	130,879	3 99	9.1
1887 Rural	22,404	368,794	10,523,682	567,560	25,811	70,275	3 14	6.3
Urban	10,987	6,358	2,600,303	272,000	134,883	60,292	5 49	20.0
Total	33,391	375,152	13,123,985	839,560	160,694	130,567	3 91	9.2
NORTHUMBERLAND:								
1885 Rural	25,975	433,986	10,659,983	713,462	....	....	....	....
Urban	10,240	6,908	2,495,161	430,710	....	....	....	....
Total	36,215	440,894	13,155,144	1,144,172	....	....	....	....
1886 Rural	26,723	432,511	10,561,508	712,681	11,080	89,788	3 36	8.0
Urban	10,378	6,972	2,544,301	226,110	94,975	54,596	5 26	19.1
Total	37,101	439,483	13,105,809	938,791	106,055	144,384	3 89	10.2
1887 Rural	26,098	432,053	10,616,738	679,567	8,900	85,572	3 28	7.6
Urban	10,304	7,029	2,612,515	222,295	94,625	56,594	5 49	19.3
Total	36,402	439,082	13,229,253	901,862	103,525	142,166	3 91	10.0
PRINCE EDWARD:								
1885 Rural	14,568	232,000	5,822,782	359,848	....	....	....	....
Urban	3,307	1,983	1,092,835	42,600	....	....	....	....
Total	17,875	233,983	6,915,617	402,448	....	....	....	....
1886 Rural	14,759	232,750	5,873,048	350,233	14,556	59,327	4 02	9.5
Urban	3,394	1,993	1,095,800	62,875	18,400	16,428	4 84	14.0
Total	18,153	234,743	6,968,848	413,108	32,956	75,755	4 17	10.2
1887 Rural	14,005	233,983	5,872,930	363,225	8,550	50,692	3 61	8.1
Urban	3,627	1,975	1,128,000	50,125	17,800	16,489	4 55	13.8
Total	17,632	235,958	7,000,930	413,350	26,350	67,181	3 81	9.0
LENNOX AND ADDINGTON:								
1885 Rural	18,899	404,040	6,552,850	345,589	....	....	....	....
Urban	4,746	6,546	1,178,770	88,650	....	....	....	....
Total	23,645	410,586	7,731,620	434,239	....	....	....	....
1886 Rural	18,791	397,100	6,576,465	343,638	13,816	73,814	3 93	10.6
Urban	4,819	6,672	1,118,377	51,450	35,000	23,622	4 90	19.6
Total	23,610	403,772	7,694,842	395,088	48,816	97,436	4 13	12.0
1887 Rural	18,431	405,136	6,496,816	342,095	9,708	73,599	3 99	10.7
Urban	4,590	6,584	1,128,537	47,000	39,800	24,141	5 26	19.9
Total	23,021	411,720	7,625,353	389,095	49,508	97,740	4 25	12.1
FRONTENAC:								
1885 Rural	21,145	668,023	4,422,752	354,957	....	....	....	....
Urban	1,330	565	128,935	42,200	....	....	....	....
Total	22,475	668,588	4,551,687	397,157	....	....	....	....
1886 Rural	21,875	666,963	4,897,644	395,216	1,550	68,350	3 12	12.9
Urban	1,230	215	128,485	40,350	6,350	4,049	3 29	23.1
Total	23,105	667,178	5,026,129	435,566	7,900	72,399	3 13	13.2
1887 Rural	21,464	656,216	4,831,391	406,004	3,800	66,099	3 08	12.6
Urban	1,167	215	136,360	32,450	7,250	4,165	3 57	23.7
Total	22,631	656,431	4,967,751	438,454	11,050	70,264	3 10	13.0
LEEDS AND GRENVILLE:								
1885 Rural	38,286	747,824	9,914,324	802,190	....	....	....	....
Urban	17,450	5,595	4,590,320	454,132	....	....	....	....
Total	55,736	753,419	14,504,644	1,256,322	....	....	....	....

TABLE No. II.—ASSESSMENT AND TAXATION.—*Continued.*

Counties.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
			$	$	$	$	$ c.	
LEEDS & GRENVILLE—*Con.*								
1886 Rural	37,823	738,442	10,022,425	828,284	10,310	105,118	2 78	9.7
Urban	17,602	5,521	4,677,352	428,557	104,270	92,853	5 28	17.8
Total	55,425	743,963	14,699,777	1,256,841	114,580	197,971	3 57	12.3
1887 Rural	38,075	740,625	9,804,614	801,315	12,278	103,226	2 71	9.7
Urban	17,598	5,745	4,841,167	459,898	114,700	93,838	5 33	17.3
Total	55,673	746.370	14,645,781	1,261,213	126,978	197,064	3 54	12.3
DUNDAS:								
1885 Rural	14,983	237,213	4,963,555	358,485	....	....	......	......
Urban	2,804	1,867	815,200	89,100	....	....	......	......
Total	17,787	239,080	5,778,755	447,585	....	....	......	......
1886 Rural	15.442	237,420	4,993,095	377,975	13,750	45,436	2 94	8.4
Urban	3.024	1,867	823,140	72,450	16,000	11,759	3 89	12.9
Total	18,466	239,287	5,816,235	450,425	29,750	57,195	3 10	9.1
1887 Rural	15,526	237,396	5,083,563	411,815	15,525	48,403	3 12	8.8
Urban	3,037	1,833	841,875	82,100	12,500	12.581	4 14	13.4
Total	18,563	239,229	5,925,438	493,915	28,025	60,984	3 29	9.5
STORMONT:								
1885 Rural	15,908	250,271	3,337,318	265,470	....	....	......	......
Urban	5,397	653	1,039,630	54,975	....	....	......	......
Total	21,305	250,924	4,376,948	320,445	....	....	......	......
1886 Rural	16,709	248,086	3,357,666	256,588	1,240	38,588	2 31	10 7
Urban	5,710	653	1,097,620	71,375	42,700	25,504	4 47	21.0
Total	22,419	248,739	4,455,286	327,963	43,940	64,092	2 86	13.3
1887 Rural	16.421	247,759	3,364,005	253,106	2,380	41,199	2 51	11.4
Urban	6,206	740	1,122,525	60,600	32,300	26,053	4 20	21.4
Total	22,627	248,499	4,486,530	313,706	34,680	67,252	2 97	13.9
GLENGARRY:								
1885 Rural	17,677	287,184	3,831,289	312,703	....	....	......	......
Urban	966	361	183,675	13,600	....	....	......	......
Total	18,643	287,545	4,014,961	326,303	....	....	......	......
1886 Rural	18,602	288,960	3,878,851	327,621	2,100	43,493	2 34	10.3
Urban	1,149	361	189,429	11,800	1,600	2,271	1 98	11.2
Total	19,751	289,321	4,068,280	339,421	3,700	45,764	2 32	10.4
1887 Rural	18,722	290,014	3,750,298	283,160	2,700	46,942	2 51	11.6
Urban	1,378	361	213,114	9,000	....	3,416	2 48	15.4
Total	20,100	290,375	3,963,412	292,160	2,700	50,358	2 51	11.8
PRESCOTT:								
1885 Rural	17,653	286,380	2,505,207	133,451	....	....	......	......
Urban	2,380	9,418	333,085	72,150	....	....	......	......
Total	20,033	295,798	2,838,292	205,601	....	....	......	......
1886 Rural	18,552	283,479	2,509,586	136,290	700	39,104	2 11	14.8
Urban	2,446	9,498	328,755	56,350	12,150	7,006	2 86	17.6
Total	20,998	292,977	2,838,341	192,640	12,850	46,110	2 20	15.1
1887 Rural	17,724	284,123	2,397.922	139,645	....	41,974	2 37	16.5
Urban	2,316	9,347	314,860	52.450	10,700	7,600	3 28	20.1
Total	20,040	293,470	2,712,782	192,095	10,700	49,574	2 47	17.0
RUSSELL:								
1885—Rural	14,240	251,133	1,587,012	158,973	....	....	......	.....
1886—Rural	14,988	250,327	1,679,591	164,593	....	31,019	2 07	16.8

TABLE No. II.—ASSESSMENT AND TAXATION.—*Continued.*

Counties.		Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
				Real property.	Personal property.	Taxable income.	Total.	Per head.	Mills on $.
				$	$	$	$	$ c.	
RUSSELL—*Continued.*									
1887	Rural	13,807	253,288	1,617,654	132,073	600	32,993	2 39	18.8
	Urban	No	return	from	Rockland	village.	.....	.....	.....
	Total	13,807	253,288	1,617,654	132,073	600	32,993	2 39	18.8
CARLETON:									
1885	Rural	30,661	565,416	7,690,572	529,510	.....	.....	.....	.....
	Urban	1,572	1,627	358,337	40,385	.....	.....	.....	.....
	Total	32,233	567,043	8,048,909	569,895	.....	.....	.....	.....
1886	Rural	31,513	563,529	8,212,005	576,288	.....	97,540	3 10	11.1
	Urban	1,531	1,539	361,384	40,276	700	3,712	2 42	9.2
	Total	33,044	565,068	8,573,389	616,564	700	101,252	3 06	11.0
1887	Rural	32,590	566,061	8,279,860	596,170	.....	98,064	3 01	11 0
	Urban*	356	1,442	46,144	7,906	.....	1,068	3 00	19.8
	Total	32,946	567,503	8,326,004	604,076	.....	99,132	3 01	11.1
RENFREW:									
1885	Rural	28,517	856,962	2,245,737	480,904	.....	.....	.....	.....
	Urban	7,961	3,741	1,467,563	247,897	.....	.....	.....	.....
	Total	36,478	860,703	3,713,300	728,801	.....	.....	.....	.....
1886	Rural	29,101	861,187	2,322,931	466,295	9,000	57,273	1 97	20.5
	Urban	8,558	3,697	1,536,878	230,600	53,450	35,005	4 09	19.2
	Total	37,659	864,884	3,859,809	696,895	62,450	92,278	2 45	20.0
1887	Rural	29,469	872,373	2,365,816	448,527	9,500	60,641	2 06	21.5
	Urban	8,448	3,667	1,640,453	251,300	54,100	37,146	4 40	19.0
	Total	37,917	876,040	4,006,269	699,827	63,600	97,787	2 58	20.5
LANARK:									
1885	Rural	20,628	663,295	4,613,904	660,233	.....	.....	.....	.....
	Urban	12,513	5,794	2,370,964	398,950	.....	.....	.....	.....
	Total	33,141	669,089	6,984,868	1,059,183	.....	.....	.....	.....
1886	Rural	21,074	660,407	4,608,498	658,625	2,800	58,391	2 77	11.1
	Urban	13,075	5,793	2,778,574	353,800	76,600	55,716	4 26	17.4
	Total	34,149	666,200	7,387,072	1,012,425	79,400	114,107	3 34	13.5
1887	Rural	21,375	667,459	4,584,848	664,216	.....	57,949	2 71	11.0
	Urban	14,866	5,700	2,988,397	356,823	79,925	62,961	4 24	18.4
	Total	36,241	673,159	7,573,245	1,021,039	79,925	120,910	3 34	13.9
VICTORIA:									
1885	Rural	21,546	565,074	7,660,837	432,025	.....	.....	.....	.....
	Urban	8,579	3,401	1,780,254	227,793	.....	.....	.....	.....
	Total	30,125	568,475	9,441,091	659,818	.....	.....	.....	.....
1886	Rural	21,563	563,659	7,641,337	443,440	394	102,463	4 75	12.7
	Urban	8,846	3,443	1,797,806	172,200	47,325	46,570	5 26	23.1
	Total	30,409	567,102	9,439,143	615,640	47,719	149,033	4 90	14.8
1887	Rural	21,520	567,720	7,576,766	478,010	250	100,818	4 68	12.5
	Urban	8,661	3,468	1,797,678	179,070	49,500	44,982	5 19	22.2
	Total	30,181	571,188	9,374,444	657,080	49,750	145,800	4 83	14.5
PETERBOROUGH:									
1885	Rural	18,614	527,298	7,107,378	680,149	.....	.....	.....	.....
	Urban	11,328	3,186	3,483,910	485,425	.....	.....	.....	.....
	Total	29,942	530,484	10,591,288	1,165,574	.....	.....	.....	.....

* Village of New Edinburgh annexed to Ottawa city in 1887.

TABLE No. II.—ASSESSMENT AND TAXATION.—*Continued.*

Counties.	Population.	No. of acres assessed.	Assessed value of— Real property.	Personal property.	Taxable income.	Taxes imposed for all purposes. Total.	Per head.	Mills on $.
			$	$	$	$	$ c.	
PETERBOROUGH—*Con.*								
1886 Rural	18,777	529,679	7,221,814	656,269	3,840	63,431	3 38	8.0
1886 Urban	11,662	3,177	3,824,245	320,025	230,000	67,913	5 82	15.5
1886 Total	30,439	532,856	11,046,059	976,294	233,840	131,344	4 31	10.7
1887 Rural	18,628	536,213	7,261,367	625,024	3,050	65,879	3 54	8.4
1887 Urban	12,194	3,180	4,002,705	322,250	225,150	59,537	4 88	13.2
1887 Total	30,822	539,393	11,264,072	947,274	228,200	125,416	4 07	10.1
HALIBURTON:								
1885..Rural	5,046	538,050	567,566	40,512	....	....	......	.....
1886..Rural	5,389	560,004	474.909	31,622	650	20,641	3 83	40.6
1887..Rural	5,573	556,445	434,391	29,118	400	20,364	3 65	43.9
HASTINGS:								
1885 Rural	32,719	927,386	8,995,486	516,688	....	....	......	.....
1885 Urban	8,363	3,331	1,289,367	35,250	....	....	......	.....
1885 Total	41,082	930,717	10,284,853	551,938	....	....	......	.....
1886 Rural	33,297	943,170	9,162,445	491,743	8,750	131,618	3 95	13.6
1886 Urban	8,560	3,402	1,522,082	40,100	5,700	36,694	4 29	23.4
1886 Total	41,857	946,572	10,684,527	531,843	14,450	168,312	4 02	15.0
1887 Rural	35,208	959,827	9,133,612	506,473	8,736	131,268	3 73	13.6
1887 Urban	9,247	3,353	1,702,075	58,125	7,350	39,619	4 28	22.4
1887 Total	44,455	963,180	10,835,687	564,598	16,086	170,887	3 84	15.0
MUSKOKA:								
1885 Rural	10,581	509,639	1,110,473	212,784	....	....	......	.....
1885 Urban	2,530	819	303,371	67,350	....	....	......	.....
1885 Total	13,111	510,458	1,413,844	280,134	....	....	......	.....
1886 Rural	10,726	509,535	1.136,482	188,215	2,050	24,111	2 25	18.2
1886 Urban	2,905	1,343	372,818	74,425	5,525	12,653	4 36	27.9
1886 Total	13,631	510,878	1,509,300	262,640	7,575	36,764	2 70	20.7
1887 Rural	9,995	512,854	1,154,539	202,387	2,000	24,578	2 46	18.1
1887 Urban	3,661	1,277	435,647	67,905	6,100	15,514	4 24	30.4
1887 Total	13,656	514,131	1,590,186	270,292	8,100	40,092	2 94	21.5
PARRY SOUND:								
1885..Rural	5,222	248,528	813,871	122,454	....	....	......	.....
1886..Rural	6,212	256,057	927,005	135.263	4,150	18,342	2 95	17.2
1887 Rural	4,961	267,041	822,347	151,131	1,450	14,988	3 02	15.4
1887 Urban	1,329	1,018	206,628	7,725	700	5,186	3 90	24.1
1887 Total	6,290	268,059	1,028,975	158,856	2,150	20,174	3 21	17.0
ALGOMA:								
1885 Rural	9,591	450,578	1,537,776	282,823	....	....	......	.....
1885 Urban	4,786	6,400	1,085,782	261.625	....	....	......	.....
1885 Total	14,377	456,978	2,623,558	544,448	....	....	......	.....
1886 Rural	9,666	447,716	1,653.667	210.459	17,000	37,123	3 84	19.7
1886 Urban	4,786	6,400	1,085,782	210,525	51,100	29,769	6 22	22.1
1886 Total	14,452	454,116	2,739.449	420,984	68,100	66,892	4 63	20.7
1887 Rural	9.828	459,327	1,619,187	166,902	2,900	37,228	3 79	20.8
1887 Urban	6,381	9,379	2,020,224	202,693	65,660	27,200	4 26	11.9
1887 Total	16,209	468,706	3,639,411	369,595	68,560	64,428	3 97	15.8

TABLE No. II.—TAXATION AND ASSESSMENT.—*Continued.*

Counties.		Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.		
				Real property.	Personal property	Taxable income.	Total.	Per head.	Mills on $.
				$	$	$	$	$ c.	
NIPISSING:									
1885	Rural	574	26,456	41,771	11,722	....	....	......	......
	Urban	933	500	104,768	72,235	....	....	......	......
	Total	1,507	26,956	146,539	83,957	....	....	......	......
1886	Rural	1,538	51,444	145,197	19,219	....	4,390	2 85	26.7
	Urban	934	500	132,310	87,720	600	2,872	3 07	13.0
	Total	2,472	51,944	277,507	106,939	600	7,262	2 94	18.9
1887	Rural	3,711	119,746	294,044	47,700	....	6,892	1 86	20.2
	Urban	989	500	133,426	82,065	800	2,191	2 22	10.1
	Total	4,700	120,246	427,470	129,765	800	9,083	1 93	16.3
*CITIES:									
Belleville (Hastings.)	1885	11,000	1,500	3,545,180	295,925	....	....	......	......
	1886	10,076	1,600	3,509,144	154,250	113,800	73,946	7 34	19.6
	1887	10,139	1,600	3,510,757	146,150	100,300	72,659	7 17	19.3
Brantford (Brant.)	1885	12,167	1,781	3,642,190	756,600	....	....	......	......
	1886	12,570	1,781	3,642,190	631,950	124,650	73,663	5 86	16.7
	1887	13,054	1,781	3,842,940	664,700	142,250	78,003	5 98	16.8
Guelph (Wellington.)	1885	10,216	3,210	2,776,510	273,700	....	....	......	......
	1886	10,195	3,210	2,759,630	169,150	87,050	60,932	5 98	20.2
	1887	10,173	3,210	2,774,210	192,920	109,100	62,360	6 13	20.3
Hamilton (Wentworth.)	1885	41,280	2,400	15,264,380	4,182,160	....	....	......	......
	1886	41,712	2,700	15,789,240	3,541,580	796,990	376,074	9 02	18.7
	1887	43,082	2,700	16,158,000	3,585,420	808,550	383,434	8 90	18.7
Kingston (Frontenac.)	1885	15,109	2,300	4,905,205	1,473,928	....	....	......	......
	1886	15,827	2,300	5,058,635	1,112,100	411,450	110,170	6 96	16.7
	1887	16,200	2,300	5,306.525	1,060,106	465,890	114,516	7 07	16.8
London (Middlesex.)	1885	26,254	2,798	9,750,571	2,659,402	....	....	......	......
	1886	26,047	2,798	9,874,894	1,540,696	1,125,926	267,548	10 27	21.3
	1887	26,315	2,798	10,566,797	1,612,225	988,370	274,561	10 43	20.9
Ottawa (Carleton.)	1885	32,857	1,829	10,348,000	1,197,000	....	....	......	......
	1886	35,500	1,829	10,727,445	1,021,850	345,025	291,465	8 21	24.1
	1887	37,020	1,909	11,324,700	1,088,775	350,025	259,980	7 02	20.4
St. Catharines (Lincoln.)	1885	9,882	3,000	3,762,435	732,930	....	....	......	......
	1886	9,779	3,000	3,762,435	635,630	97,300	95,923	9 81	21.3
	1887	10,075	3,000	3,902,225	662,970	121,270	95,022	9 43	20.3
St. Thomas (Elgin.)	1885	11,157	1,450	3,216,410	528,389	....	....	......	......
	1886	10,127	1,450	3,704,710	353,800	383,670	68,355	6 75	15.3
	1887	10,271	1,605	3,501,017	274,400	196,900	60,623	5 90	15.4
Stratford (Perth.)	1885	8,764	2,835	2,388,370	114,900	....	....	......	......
	1886	9,069	2,835	2,264,865	59,400	51,500	48,068	5 30	20.2
	1887	8,881	2,835	2,482,325	119,150	103,250	52,609	5 92	19.5
Toronto (York.)	1885	111,800	7,620	57,393,764	11,563,942	....	....	......	......
	1886	118,403	7,620	60,472,766	7,386,874	4,328,025	1,322,309	11 17	18.3
	1887	126,169	8,055	69,469,969	8,533,979	5,255,585	1,481,562	11 74	17.8

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* The population throughout is from the assessment rolls taken *in* the year. The assessed values, on which the taxes imposed *for* the year are based, are, in the case of several cities, from the rolls taken in the previous year.

ASSESSMENT AND TAXATION.

TABLE No. III.—Detailed statement of the Population and Area of local municipalities in Ontario as shown by the assessment rolls, and of assessed Values and amount of Taxes imposed as shown by the collection rolls, together with the average rate of taxes per head of population for the year 1887, arranged by Counties and classified as rural and urban.

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
Essex:							
Anderdon ....Tp.	1,942	22,590	484,075	18,800	....	8,351	4 30
Colchester N........... "	1,613	30,293	497,590	5,495	....	14,757	9 15
Colchester S........... "	2,479	34,373	678,100	41,500	1,200	19,720	7 95
Gosfield............... "	3,536	58,193	1,610,367	41,475	550	24,699	6 99
Maidstone .... "	2,977	44,730	440,840	34,029	....	15,727	5 28
Malden............... "	1,550	20,817	636,170	36,295	1,400	8,453	5 45
Mersea. .... "	3,194	61,915	920,459	44,185	....	21,715	6 80
Pelee Island........... "	421	10,110	146,847	12,017	....	1,156	2 75
Rochester.............. "	2,396	32,602	422,440	17,340	....	13,294	5 55
Sandwich E........... "	4,506	42,709	758,968	82,005	1,400	27,886	6 19
Sandwich W........... "	2,713	24,588	679,804	9,990	....	9,526	3 51
Tilbury W............. "	4,358	48,264	656,733	17,750	....	20,122	4 62
Rural	31,685	431,184	7,932,393	360,881	4,550	185,406	5 85
Amherstburg...........Tn.	2,250	486	463,790	20,650	7,200	11,518	5 12
Sandwich .... "	1,166	2,000	245,090	16,400	6,850	3,337	2 86
Windsor .... "	7,608	2,020	2,331,140	70,050	38,900	47,261	6 21
Belle River....... ....Vil.	633	500	54,738	2,250	....	1,435	2 27
Essex Centre........... "	1,834	600	386,200	33,460	3,650	10,136	5 53
Kingsville .... "	925	450	186,538	19,866	8,110	4,092	4 42
Leamington .... "	1,294	500	220,565	23.850	....	5,221	4 03
Urban	15,710	6,556	3,888,061	186,526	64,710	83,000	5 28
Kent:							
Camden ....Tp.	2,275	40,297	1,085,520	73,750	....	23,725	10 43
Chatham..... .... "	4,586	84,190	1,542,144	72,325	....	41,011	8 94
Dover................. "	3,604	67,411	1,910,342	80,065	....	24,330	6 75
Harwich .... "	4,737	86,610	3,738,866	186,141	400	32,601	6 88
Howard................ "	3,107	58,190	2,659,230	133,030	....	21,192	6 82
Orford .... "	2,807	49,864	1,469,570	46,590	980	14,730	5 25
Raleigh .... "	4,767	71,074	2,493,928	125,715	....	27,102	5 69
Romney .... "	1,058	26,055	433,596	18,419	....	5,417	5 12
Tilbury E...... .... "	2,149	53,277	1,376,286	87,833	400	20,141	9 37
Zone .... "	1,284	25,172	536,598	45,640	....	5,953	4 64
Rural	30,374	562,140	17,246,080	869,508	1,780	216,202	7 12
Blenheim ....Tn.	1,398	608	301,685	34,550	6,050	6,409	4 58
Bothwell............... "	973	2,021	178,791	45,170	1,400	2,987	3 07
Chatham.............. "	8,342	1,650	3,099,617	178,500	89,350	61,135	7 33
Dresden .... "	1,885	642	406,800	34,525	4,800	10,821	5 74
Ridgetown............. "	2,200	678	660,025	55,775	12,400	17,879	8 13
Thamesville . ...Vil.	734	384	129,440	16,930	....	4,080	5 56
Tilbury Centre .... "	803	577	120,465	10,135	3,900	2,327	2 90
Wallaceburg.......... "	2,778	500	370,825	30,855	....	11,317	4 07
Urban	19,113	7,060	5,267,648	406,440	117,900	116,955	6 12
Elgin:							
Aldborough ....Tp.	4,822	75,579	1,411,750	60,605	....	21,784	4 52
Bayham .... "	3,472	55,795	1,128,890	72,575	....	15,414	4 44
Dorchester S........... "	1,723	30,574	1,081,775	9,400	1,500	11,245	6 53
Dunwich.............. "	4,121	69,523	1,860,445	126,620	....	23,680	5 75
Malahide .... "	3,834	62,023	1,918,370	149,400	1,740	18,960	4 95

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
Elgin—*Continued.*							
Southwold ....Tp.	4,294	72,507	2,496,410	143,255	600	24,193	5 63
Yarmouth .... "	4,655	69,858	2,666,609	162,465	10,170	24,573	5 28
Rural	26,921	435,859	12,564,249	724,320	14,010	139.849	5 19
Aylmer ....Tn.	2,004	393	469,023	71,100	19.100	8,640	4 31
Port Stanley..........Vil.	611	418	96,655	9,300	1,000	1,670	2 73
Springfield............ "	580	408	80,154	2,580	200	1,280	2 21
Vienna .... "	382	1,200	72,055	7,250	600	1,466	3 84
Urban	3,577	2,419	717,887	90,230	20,900	13,056	3 65
Norfolk :							
Charlotteville ....Tp.	3,675	59,630	966,739	55,225	650	10,097	2 75
Houghton. .... "	1,823	33,956	478,680	54,745	....	5,440	2 98
Middleton .... "	3,181	45,373	800,065	47,205	....	9,625	3 03
Townsend............. "	4,196	65,609	2,336,550	187,950	5,550	13,097	3 12
Walsingham .... "	4,790	93,724	1,310,148	92,130	1,100	16,169	3 38
Windham .... "	4,096	66,678	1,593,226	100,900	2,800	11,524	2 81
Woodhouse .... "	2,431	34,100	1,138,969	85,530	350	11,166	4 59
Rural	24,192	399,070	8,624,377	623,685	10,450	77,118	3 19
Simcoe ....Tn.	2,709	800	718,575	56,570	44,080	14,755	5 45
Port Dover .... Vil.	1,139	432	186,813	13,590	3,950	3,582	3 14
Waterford .... "	1,242	427	290,600	34,500	5,785	3,953	3 18
Urban	5,090	1,659	1,195,988	104,660	53,815	22,290	4 38
Haldimand :							
Canborough...........Tp.	1,054	21,440	362,065	36,129	....	3,842	3 65
Cayuga N............. "	1,734	32,639	721,595	70,353	200	6,001	3 46
Cayuga S.............. "	752	13,272	278,675	4,525	5,325	3,485	4 63
Dunn .... "	911	14,663	416,931	34,445	....	3,422	3 76
Moulton .... "	1,563	27,101	593,280	25,950	....	9,871	6 32
Oneida. .... "	1,685	32,355	951,000	89,640	....	10,604	6 29
Rainham.. .... "	1,907	25,620	574,900	48,450	....	6,960	3 65
Seneca................. "	2,327	41,806	995,695	76,150	950	9,705	4 17
Sherbrooke...... .. .. "	424	4,665	146,251	11,039	....	1,228	2 90
Walpole .... "	4,800	66,677	1,936,430	141,750	800	21,410	4 46
Rural	17,157	280,238	6,976,822	538,431	7,275	76,528	4 46
Caledonia ....Vil.	989	547	179,014	11,600	2,900	4,109	4 15
Cayuga.......... .... "	841	938	136,272	12,970	4,000	3,503	4 17
Dunnville . ... "	2,218	910	499,905	69,500	800	7,734	3 49
Hagersville .... "	866	332	146,900	23,200	3,600	2,768	3 20
Urban	4,914	2,727	962,091	117,270	11,300	18,114	3 69
Welland :							
Bertie ....Tp.	3,782	35,419	1,815,000	113,135	2,600	14,933	3 95
Crowland .... "	1,205	19,241	438,320	36,420	....	4,724	3 92
Humberstone .... "	2,441	30,834	767,100	70,100	2,400	8,468	3 47
Pelham .... "	2,237	28,900	878,000	67,350	1,500	9,324	4 17
Stamford .... "	2,075	21,523	720,510	49,245	7,430	8,928	4 30
Thorold.... .... "	2,021	22,608	652,740	77,985	850	8,226	4 07
Wainfleet............. "	3,023	51,200	927,000	70,000	3,000	11,290	3 73
Willoughby .... "	1,096	18,604	409,509	31,640	....	4,301	3 92
Rural	17,880	228,329	6,608,179	515,875	17,780	70,194	3 93

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of— Real property.	Personal property.	Taxable income.	Taxes imposed for all purposes. Total.	Per head.
			$	$	$	$	$ c
WELLAND—*Continued.*							
Niagara Falls Tn.	2,968	1,033	1,497,335	62,235	20,400	24,277	8 18
Thorold “	2,917	771	603,100	74,955	16,330	14,101	4 83
Welland “	2,012	800	550,077	91,140	20,180	13,067	6 49
Chippawa Vil.	562	174	99,724	9,400	1,900	1,496	2 66
Fort Erie “	770	600	139,398		1,300	2,242	2 91
Niagara Falls S. “	995	291	121,050	10,875	12,000	5,072	5 10
Port Colborne “	1,158	186	262,255	38,592	8,535	3,579	3 09
Urban	11,382	3,855	3,272,939	287,197	80,645	63,834	5 61
LAMBTON:							
Bosanquet Tp.	2,720	71,496	1,866,183	77,175	250	16,188	5 95
Brooke “	2,936	74,989	1,957,360	68,590		16,855	5 74
Dawn “	2,325	65,526	801,488	48,059		25,179	10 83
Enniskillen “	4,113	86,629	1,206,263	68,310		21,468	5 22
Euphemia “	2,600	39,174	1,003,115	80,110		10,411	4 00
Moore “	4,904	73,265	1,596,153	130,755	4,760	23,094	4 71
Plympton “	3,906	76,187	2,231,500	102,250		16,504	4 23
Sarnia “	2,155	38,408	665,940	54,740		12,536	5 82
Sombra “	3,421	72,013	1,057,290	74,240		26,727	7 81
Warwick “	3,470	70,008	2,788,050	111,150	400	17,549	5 06
Rural	32,550	667,695	15,173,342	815,379	5,410	186,511	5 73
Petrolea Tn.	3,947	2,700	868,970	95,380	23,800	29,192	7 40
Sarnia “	5,588	1,450	1,290,615	162,265	99,300	35,534	6 36
Alvinston Vil.	901	471	162,265	19,510	650	3,922	4 35
Arkona “	556	447	84,350	6,050		1,287	2 31
Forest “	1,757	500	278,375	20,800	3,200	6,352	3 62
Oil Springs “	918	1,883	207,253	23,980		4,860	5 29
Point Edward “	1,274	728	197,385	1,720		4,807	3 77
Thedford “	625	430	91,845	10,200		2,082	3 33
Watford “	1,183	400	146,050	34,155	2,050	4,893	4 14
Wyoming “	821	478	111,290	12,900	1,300	3,965	4 83
Urban	17,570	9,487	3,438,398	386,960	130,300	96,894	5 51
HURON:							
Ashfield Tp.	3,740	63,642	1,647,370	98,675		13,954	3 73
Colborne “	2,167	34,112	1,017,425	38,275	1,700	9,033	4 17
Goderich “	2,684	52,000	1,642,665	79,430	2,200	12,386	4 61
Grey “	3,849	64,700	1,703,620	74,655	400	13,668	3 55
Hay “	3,654	53,216	1,853,290	40,950	800	13,428	3 67
Howick “	4,800	67,485	2,130,710	103,805	100	16,239	3 38
Hullett “	3,163	53,465	2,217,257	162,250	2,300	13,886	4 39
McKillop “	3,371	52,147	1,735,825	58,725	2,900	11,905	3 53
Morris “	3,140	55,576	1,739,355	103,300		11,469	3 65
Stanley “	2,408	43,286	1,670,110	83,745	500	10,905	4 53
Stephen “	4,252	56,942	1,819,918	37,635	800	17,287	4 07
Tuckersmith “	2,961	40,865	2,068,520	164,950	400	13,963	4 72
Turnberry “	2,595	35,122	1,082,235	33,100		8,624	3 32
Usborne “	2,708	42,640	2,018,430	72,350		12,414	4 58
Wawanosh E. “	2,115	41,742	1,221,000	63,240		8,183	3 87
Wawanosh W. “	2,171	41,691	1,247,250	75,350		10,065	4 64
Rural	49,778	798,631	26,814,980	1,290,435	12,100	197,409	3 97
Clinton Tn.	2,805	903	544,260	32,600	18,550	12,094	4 31
Goderich “	3,920	1,000	923,210	74,750	54,050	21,262	5 42
Seaforth “	2,540	550	492,920	60,800	19,230	12,147	4 78
Wingham “	1,939	750	405,527	54,800	3,850	9,383	4 84
Bayfield Vil.	623	1,769	83,385	3,050	300	1,354	2 17

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Taxes.	Per head.
			$	$	$	$	$ c.
HURON—*Continued.*							
Blyth .... Vil.	1,039	457	166,790	18,300	800	4,554	4 38
Brussels .... "	1,264	421	264,235	52,777	4,200	6,809	5 39
Exeter .... "	1,678	955	434,150	52,550	7,715	7,087	4 22
Wroxeter .... "	436	500	89,648	7,900	....	2,102	4 82
Urban	16,244	7,305	3,404,125	357,527	108,695	76,792	4 73
BRUCE:							
Albemarle ....Tp.	1,068	49,466	132,860	11,400	....	3,805	3 56
Amabel................ "	2,700	63,174	589,752	58,754	....	9,684	3 59
Arran .... "	2,837	53,919	1,230,315	124,635	....	14,410	5 08
Brant................ "	4,506	68,908	2,050,750	84,575	800	16,816	3 73
Bruce.................. "	3,361	66,623	1,658,165	134,430	....	11,277	3 36
Carrick .... "	4,823	59,503	1,717,850	131,350	....	15,080	3 13
Culross .... "	3,112	55,606	1,706,460	103,500	....	13,244	4 26
Eastnor .... "	1,193	42,240	114,447	12,025	....	6,158	5 16
Elderslie .... "	3,005	55,314	1,308,680	54,300	....	13,411	4 46
Greenock .... "	3,089	62,153	1,325,590	120,530	....	10,612	3 44
Huron .... "	3,997	57,887	1,411,010	66,815	....	15,778	3 95
Kincardine. .... "	3,370	58,621	1,537,450	122,250	1,100	16,543	4 91
Kinloss .... "	2,981	45,803	1,241,070	72,260	....	10,875	3 65
Lindsay and Bury St. Edmunds ...... "	630	46,622	57,007	1,750	....	2,162	3 43
Saugeen .... "	1,883	36,066	931,725	70,545	....	7,237	3 84
Rural	42,555	821,905	17,013,131	1,169,119	1,900	167,092	3 93
Kincardine ....Tn.	2,780	1,000	639,465	32,900	18,000	13,807	4 97
Walkerton .... "	2,793	1,400	607,340	43,800	24,460	12,260	4 39
Chesley ....Vil.	1,089	500	186,890	27,050	5,600	3,952	3 63
Lucknow .... "	1,352	368	230,177	46,300	600	4,875	3 61
Paisley .... "	1,238	500	246,527	53,000	7,650	5,086	4 11
Port Elgin .... "	2,070	589	273,356	37,845	9,225	5,818	2 81
Southampton ... ... "	1,179	3,000	156,323	15,350	100	3,886	3 30
Tara .... "	725	500	160,665	37,165	2,100	3,135	4 32
Teeswater .... "	1,157	473	181,595	21,610	1,880	4,049	3 50
Tiverton .... "	659	500	89,140	6,700	....	1,440	2 19
Wiarton............... "	1,455	1,179	222,050	12,100	1,000	5,130	3 53
Urban	16,497	10,009	2,993,528	333,820	70,615	63,438	3 85
GREY:							
Artemesia ....Tp.	4,442	68,630	1,025,930	61,450	....	12,099	2 72
Bentinck .... "	4,679	73,000	1,267,510	70,690	....	16,102	3 44
Collingwood .... "	3,728	67,033	1,151,001	71,975	1,200	21,140	5 67
Derby .... "	2,062	40,255	733,430	58,500	....	8,098	3 93
Egremont .... "	3,428	72,384	1,577,618	99,527	....	11,880	3 47
Euphrasia........ ..... "	3,100	72,000	1,507,360	43,500	....	11,595	3 74
Glenelg .... "	3,601	68,224	664,455	47,770	800	10,458	2 90
Holland .... "	3,319	66,707	612,421	58,700	1,200	9,610	2 90
Keppel .... "	3,351	86,342	623,835	35,650	....	11,446	3 42
Normanby .... "	5,213	68,200	1,488,190	94,250	1,500	20,526	3 94
Osprey...... .... "	3,132	70,338	590,060	41,350	....	9,220	2 94
Proton.... .. .. "	2,814	80,800	637,750	54,500	....	11,139	3 96
St. Vincent .... "	3,634	64,395	1,917,440	49,950	200	14,268	3 93
Sarawak . ... "	993	11,514	211,393	....	....	2,769	2 79
Sullivan .... "	3,749	73,658	1,296,980	123,350	....	11,357	3 03
Sydenham . ... "	3,920	73,624	1,290,590	121,020	600	9,688	2 47
Rural	55,165	1,057,104	16,595,963	1,032,182	5,500	191,395	3 47

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of— Real property.	Personal property.	Taxable income.	Taxes imposed for all purposes. Total.	Per head.
			$	$	$	$	$ c.
GREY—*Continued.*							
Durham ....Tn.	1,081	1,100	212,640	44,250	10,150	4,551	4 21
Meaford .... "	2,154	1,500	574,395	13,800	3,660	8,442	3 92
Owen Sound .... "	5,791	6,000	1,573,348	150,150	44,900	35,048	6 05
Thornbury .... "	883	900	207,390	10,400	....	3,013	3 45
Urban	9,909	9,500	2,567,773	218,600	58,710	51,084	5 16
SIMCOE:							
Adjala.....................Tp.	1,993	45,770	839,925	25,900	1,000	11,193	5 62
Essa .... "	3,901	69,508	1,365,967	27,725	....	16,422	4 21
Flos .... "	2,873	63,119	606,797	31,975	....	10,326	3 59
Gwillimbury W........... "	2,471	46,984	1,033,341	14,725	300	13,327	5 39
Innisfil .... "	4,133	69,704	1,468,874	43,400	....	15,054	3 64
Medonte .... "	3,439	66,722	445,960	45,850	....	8,815	2 56
Nottawasaga .... "	5,805	91,924	1,363,664	46,600	....	25,674	4 42
Orillia and Matchedash. "	3,102	84,258	465,642	44,000	....	9,000	2 90
Oro .... "	3,842	73,812	1,080,025	59,275	800	10,082	2 62
Sunnidale .... "	2,349	54,545	456,248	36,250	....	9,503	4 04
Tay .... "	2,922	46,201	502,909	58,400	3,700	10,908	3 73
Tecumseth .... "	3,987	66,820	1,665,950	71,100	....	17,921	4 49
Tiny .... "	3,587	80,785	750,451	48.582	400	13,029	3 63
Tossorontio .... "	1,158	44,524	401,943	34,300	....	7,822	6 75
Vespra .... "	2,740	62,060	482,350	27,920	....	9,323	3 40
Rural	48,302	966,169	12,931,046	616,002	6,200	188,399	3 90
Barrie ....Tn.	4,412	2,100	1,165,470	75,750	45,400	23,000	5 21
Collingwood .... "	4,696	4,400	1,226,656	39,000	18,900	28,961	6 17
Orillia .... "	4,004	1,600	704,235	93,270	20,550	16,455	4 11
Penetanguishene .... "	1,957	2,181	278,995	25,800	5,200	8,272	4 23
Alliston ....Vil.	1,691	500	234,686	20,660	2,600	5,927	3 51
Bradford .... "	1,054	1,700	231,116	27,900	2,000	4,232	4 02
Midland.................... "	1,778	485	329,823	16,150	800	7,880	4 43
Stayner .... "	1,122	401	171,310	18,280	....	4,894	4 36
Tottenham .... "	601	400	117,040	7,300	800	2,490	4 14
Urban	21,315	13,767	4,459,331	324,110	96,250	102,111	4 79
MIDDLESEX:							
Adelaide ....Tp.	2,908	44,292	865,491	14,830	......	11,990	4 12
Biddulph .... "	2,650	39,284	1,143,946	44,115	1,100	12,849	4 85
Caradoc.................... "	3,848	62,092	1,201,210	39,010	....	18,416	4 79
Delaware .... "	1,773	23,257	583,625	....	....	8,448	4 76
Dorchester N............ "	3,414	51,591	1,663,420	69,100	800	17,451	5 11
Ekfrid .... "	2,694	53,449	1,132,804	37,230	500	17,586	6 53
Lobo .... "	2,690	47,234	1,743,925	32,390	1,200	15,181	5 64
London .... "	8,808	99,912	4,080,030	70,950	3,050	37,726	4 28
McGillivray.............. "	3,588	66,846	2,043,950	52,050	....	16,929	4 72
Metcalfe .... "	1,811	36,157	790,160	22,550	....	11,639	6 43
Mosa .... "	2,152	47,118	542,535	28,845	....	10,216	4 75
Nissouri W............... "	3,447	49,500	1,501,750	42,950	....	17,568	5 10
Westminster .... "	7,838	64,148	3,948,440	102,800	400	33,259	4 24
Williams E............... "	1,694	38,460	1,068,645	38,310	....	12,737	7 51
Williams W.............. "	1,814	35,214	628,470	20,400	....	8,020	4 42
Rural	51,129	758,554	22,938,401	615,530	7,050	250,015	4 89
Parkhill ....Tn.	1,663	610	249,530	11,200	3,300	7,176	4 32
Strathroy .... "	3,573	2,200	926,488	54,195	20,040	17,745	4 97
Ailsa Craig..............Vil.	740	425	133,385	....	....	3,162	4 27
Glencoe .... "	917	475	166,750	8,600	3,500	2,750	3 00
London W................ "	1,754	500	265,000	....	....	6,215	3 54

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
MIDDLESEX—*Continued.*							
Lucan ....Vil.	928	450	148,360	7,600	....	2,716	2 93
Newbury .... "	496	500	56,866	3,375	400	1,503	3 03
Wardsville .... "	392	413	48,310	2,500	....	1,421	3 63
Urban	10,463	5,573	1,994,689	87,470	27,240	42,688	4 08
OXFORD :							
Blandford.... ....Tp.	1,879	29,681	1,069,975	103,370	800	7,851	4 18
Blenheim .... "	4,824	66,756	2,270,282	188,495	5,710	21,086	4 37
Dereham .... "	3,540	64,925	2,216,980	197,850	1,700	18,768	5 30
Nissouri E .... "	2,735	46,527	2,196,500	126,900	5,150	8,951	3 27
Norwich N .... "	2,246	33,818	1,499,680	127,250	800	12,987	5 78
Norwich S .... "	2,696	36,055	939,430	70,475	3,100	8,630	3 20
Oxford E .... "	1,922	34,573	1,476,900	118,900	2,000	10,988	5 72
Oxford N . .. . "	1,379	20,947	901,216	69,455	....	7,790	5 65
Oxford W .... "	2,308	25,877	1,105,026	88,085	400	7,808	3 38
Zorra E .... "	3 869	57,564	2,804,870	149,450	....	22,709	5 87
Zorra W .... "	2,522	55,031	2,577,140	118,870	....	12,192	4 83
Rural	29,920	471,754	19,057,999	1,359,100	19,660	139,760	4 67
Ingersoll ....Tn.	4,228	1,722	1,195,300	29,125	27,725	19,283	4 56
Tilsonburg .... "	2,228	2,000	553,225	35,800	4,800	11,877	5 33
Woodstock .... "	7,534	1,275	1,888,190	130,800	64,700	38,869	5 16
Embro ....Vil.	547	1,309	164,230	15,780	300	1,735	3 17
Norwich.............. "	1,438	457	291,560	27,850	7,975	5,901	4 10
Urban	15,975	6,763	4,092,505	239,355	105,500	77,665	4 86
BRANT :							
Brantford............ Tp.	6,244	72,013	3,775,650	405,455	17,720	19,952	3 20
Burford .... "	4,600	66,569	2,161,815	169,000	2,200	18,954	4 12
Dumfries S .... "	3,120	47,725	2,287,649	226,408	7,620	13,672	4 38
Oakland .... "	815	10,258	392,948	35,010	400	2,750	3 37
Onondaga.... .... "	1,351	20,599	686,915	67,585	1,225	3,161	2 34
Rural............ "	16,130	217,164	9,304,977	903,458	29,165	58,489	3 63
Paris (Urban).... .....Tn.	3,423	685	979,439	140,488	27,020	21,480	6 28
PERTH :							
Blanshard ....Tp.	2,802	45,920	2,348,850	76,400	400	14,089	5 03
Downie .. .. "	2,689	48,546	1,999,700	212,450	400	15,235	5 67
Easthope N .... "	2,439	43,125	1,651,770	152,550	4,900	12,086	4 96
Easthope S .... "	1,740	23,936	1,081,400	47,780	300	7,578	4 36
Ellice........ .... "	2,832	54,463	1,478,220	....	....	17,207	6 08
Elma .... "	3,659	66,368	1,340,695	....	....	14,233	3 89
Fullarton .... "	2,308	40,329	1,896,120	109,596	946	15,297	6 63
Hibbert................ "	2,501	41,434	1,756,396	135,370	....	12,511	5 00
Logan .... "	2,930	53,751	1,845,742	79,600	....	15,297	5 22
Mornington .... "	3,274	50,100	1,421,625	....	400	15,093	4 61
Wallace................ "	2,989	49,862	1,099,562	46,750	....	11,979	4 01
Rural	30,163	517,843	17,920,080	860,496	7,346	150,605	4 99
Listowel ....Tn.	3,103	1,340	692,060	65,450	10,500	12,590	4 06
Mitchell .... "	2,363	1,200	536,564	28,950	2,000	11,350	4 80
St. Mary's .... "	3,320	2,666	1,041,800	80,000	27,300	19,936	6 00
Milverton ....Vil.	607	504	96,474	....	....	1,605	2 64
Urban	9,393	5,710	2,366,898	174,400	39,800	45,481	4 84

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
WELLINGTON :							
Arthur .... Tp.	3,428	64,430	1,188,200	89,040	....	12,634	3 69
Eramosa .... "	2,978	44,201	2,065,625	219,000	1,400	11,755	3 95
Erin .... "	3,624	70,398	2,088,544	138,810	950	16,587	4 58
Garafraxa W .... "	2,869	47,256	1,002,460	84,130	600	14,853	5 18
Guelph .... "	2,535	36,537	1,490,450	165,750	12,700	9,958	3 93
Luther W .... "	1,761	49,952	555,740	21,700	....	7,336	4 17
Maryborough .... "	3,720	56,541	1,172.358	51,200	400	17,196	4 62
Minto .... "	3,661	69,307	1,133,500	89,150	....	17,199	4 70
Nichol .... "	2,004	26,776	1,498,967	150,372	....	8,368	4 18
Peel .... "	4,240	74,420	1,476,650	87,650	....	16,689	3 94
Pilkington .... "	1,661	28,973	875,450	61,310	....	9,134	5 50
Puslinch .... "	3,553	58,544	934,710	168,265	4,656	12,891	3 63
Rural	36,034	627,335	15,482,654	1,326,377	20,706	154,600	4 29
Harriston .... Tn.	1,936	922	347,400	24,050	2,800	10,027	5 18
Mt. Forest .... "	2,325	1,341	459,405	52,000	9,210	11,836	5 09
Palmerston .... "	1,840	854	332,260	29,950	4,700	8,503	4 62
Arthur .... Vil.	1,240	994	202,874	25,275	3,200	5,557	4 48
Clifford .... "	514	430	87,625	11,460	....	2,067	4 02
Drayton .... "	830	517	113,800	13,625	....	2,883	3 47
Elora .... "	1,334	800	227,190	22,770	5,650	7,112	5 33
Erin .... "	506	439	71,140	12,500	1,200	1,088	2 15
Fergus .... "	1,624	980	352,602	38,200	9,950	7,960	4 90
Urban	12,149	7,277	2,194,296	229,830	36,710	57,033	4 69
WATERLOO :							
Dumfries N .... Tp.	2,832	44,073	1,387,090	109,480	2,230	13,736	4 85
Waterloo .... "	7,067	81,857	2,082,708	200,859	18,787	23,494	3 32
Wellesley .... "	4,970	66,145	1,255,545	125,234	2,900	21,031	4 23
Wilmot .... "	5,157	58,120	2,627,210	216,195	6,500	21,215	4 11
Woolwich .... "	4,466	53,585	1,132,557	136,680	500	17,182	3 85
Rural	24,492	303,780	8,485,110	788,448	30,917	96,658	3 95
Berlin .... Tn.	6,125	2,887	986,688	88,105	32,500	22,978	3 75
Galt .... "	6,697	537	1,405,285	156,450	66,700	32,569	4 86
Waterloo .... "	2,695	2,800	545,860	110,550	20,500	13,994	5 19
Ayr .... Vil.	1,123	500	242,363	13,350	1,800	3,626	3 23
Elmira .... "	873	544	87,278	11,245	1,756	1,887	2 16
Hespeler .... "	1,135	590	223,862	19,400	5,250	4,038	3 56
New Hamburg .... "	1,223	951	268,248	36,350	8,868	4,515	3 69
Preston .... "	1,669	1,067	309,326	60,570	6,350	6,137	3 68
Urban	21,540	9,876	4,068,910	496,020	143,721	89,744	4 17
DUFFERIN :							
Amaranth .... Tp.	2,514	63,361	1,026,020	43,150	....	10,570	4 20
Garafraxa E. .... "	2,017	42,363	560,275	34,600	....	10,309	5 11
Luther E. .... "	1,854	38,988	567,110	34,150	....	8,583	4 63
Melancthon .... "	3,220	74,286	800,160	43,350	650	11,936	3 71
Mono .... "	3.304	69,059	709,927	57,100	....	13,598	4 12
Mulmur .... "	3,189	69,634	689,310	36,000	....	15,650	4 91
Rural	16,098	357,691	4,352,802	248,350	650	70,646	4 39
Orangeville .... Tn.	3,200	1,805	690,650	53,300	14,050	13,790	4 31
Shelburne .... Vil.	1,302	500	297,575	30,050	8,370	3,599	2 76
Urban	4,502	2,305	988,225	83,350	22,420	17,389	3 86

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
LINCOLN :							
Caistor ....Tp.	2,034	32,755	673,835	24,900	400	6,148	3 02
Clinton .... "	1,939	24,737	1,166,052	186,725	4,887	8,800	4 54
Gainsborough .... "	2,542	39,757	1.034,798	95,467	....	8,113	3 19
Grantham .... "	1,935	19,086	724,123	41,400	400	7,775	4 02
Grimsby N............. "	1,090	15,627	695,025	26,499	....	6.926	6 35
Grimsby S. .... "	1,450	18,125	431,200	25,150	300	5,516	3 80
Louth .... "	1,688	18,704	718,750	35,450	4,730	8,082	4 79
Niagara... .... "	1,699	22,441	921,346	51,650	2,100	8,053	4 74
Rural	14,377	191,232	6,365,129	487,241	12,817	59,413	4 13
Niagara.......... ....Tn.	1,322	567	315,810	15,150	4,414	5,968	4 51
Beamsville ....Vil.	781	500	137,470	12,700	7,100	2,493	3 19
Grimsby................ "	800	488	162,080	12,050	600	3,170	3 96
Merritton .... "	1,786	478	462,616	22,000	5,900	6,104	3 42
Port Dalhousie .... "	872	400	154,987	....	....	3,875	4 44
Urban	5,561	2,433	1,232,963	61,900	18,014	21,610	3 89
WENTWORTH :							
Ancaster.............. Tp.	4,018	45,782	2,265,310	107,500	8,040	14,808	3 69
Barton................. "	4,181	14,183	1,478,369	48,500	5,200	8,986	2 14
Beverley .... "	4,688	70,122	1,941,405	115,890	2,130	13,928	2 97
Binbrook .... "	1,674	26,315	980,610	45,500	....	5,461	3 26
Flamboro' E............ "	2,142	33,754	1,098,985	137,075	4,900	7,649	3 57
Flamboro' W. .... "	3,136	30,798	1,315,450	92,000	2,800	8,635	2 75
Glanford.. .... "	1,772	23,529	1,015,600	77,115	2,000	4,735	2 67
Saltfleet .... "	2,501	28,023	831,630	61,890	....	8,021	3 21
Rural	24,112	272,506	10,927,359	685,470	25,070	72,223	3 00
Dundas ....Tn.	4,051	550	871,975	86,135	31,800	20,169	4 98
Waterdown............Vil.	683	290	172,605	11,400	3,150	1,674	2 45
Urban	4,734	840	1,044,580	97,535	34,950	21,843	4 61
HALTON :							
Esquesing . ...Tp.	4,206	66,425	2,223,058	171,057	2,495	19,668	4 68
Nassagaweya........... "	2,674	44,800	860,588	119,906	2,470	9,022	3 37
Nelson................. "	3,072	46,206	1,819,735	125,750	600	13,742	4 47
Trafalgar .... "	3,935	66,944	2,510,385	177,715	3,750	20,160	5 12
Rural	13,887	224,375	7,413,766	594,428	9,315	62,592	4 51
Milton.................Tn.	1,403	400	325,304	25,050	6,600	6,845	4 88
Oakville .... "	1,636	1,300	365,700	46,100	2,200	6,994	4 28
Acton ....Vil.	1,010	480	161,085	18,695	1,659	3,795	3 76
Burlington .... "	1,169	491	298,616	8,300	1,900	3,623	3 10
Georgetown............ "	1,595	1,052	282,760	39,260	2,800	6,634	4 16
Urban	6,813	3,723	1,433,465	137,405	15,159	27,891	4 09
PEEL :							
Albion ....Tp.	3,112	56,062	1,241,750	82,250	... .	12,004	3 86
Caledon................ "	4,280	68,390	1,699,650	72,800	....	16,354	3 82
Chinguacousy .... "	4,785	79,935	2,864,550	221,540	....	19,924	4 16
Toronto .. .. "	5,227	65,168	2,500,100	147,400	4,300	18,350	3 51
Toronto Gore .... "	1,189	19,000	739,480	43,400	....	4,433	3 73
Rural	18,593	288,555	9,045,530	567,390	4,300	71,065	3 82

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
PEEL—*Continued.*							
Brampton..............Tn.	3,351	1,360	873,725	45,300	19,000	22,676	6 77
Bolton .... Vil.	698	476	117,900	15,075	1,400	2,340	3 35
Streetsville............ "	801	508	137,235	15,500	1,704	3,930	4 91
Urban	4,850	2,344	1,128,860	75,875	22,104	28,946	5 97
YORK :							
Etobicoke...... ......Tp.	3,053	29,198	1,703,240	112,400	4,200	9,744	3 19
Georgina .... "	2,334	35,343	736,820	39,150	500	8,685	3 72
Gwillimbury E. .. . . .. "	3,748	59,039	1,378,980	64,575	2,550	12,233	3 26
Gwillimbury N......... "	1,835	31,505	859,935	52,950	200	8,473	4 62
King .... "	5,682	86,510	3,082,049	189,625	5,300	12,758	2 25
Markham.............. "	5,073	66,741	3,354,550	148,550	5,200	21,317	4 20
Scarborough .... "	3,421	42,970	2,279,050	115,000	4,300	12,247	3 58
Vaughan .. .. "	4,764	66,868	3,053,048	138,965	3,800	16,580	3 48
Whitchurch............ "	3,585	60,013	1,874,695	83,400	1,250	10,657	2 97
York .... "	9,825	60,170	6,838,770	180,200	1,700	47,804	4 87
Rural	43,320	538,357	25,161,137	1,124,815	29,000	160,498	3 70
Newmarket............Tn.	2,068	742	474,015	28,495	7,500	8,062	3 90
Parkdale... .... "	3,601	700	2,525,192	37,430	12,250	65.420	18 17
Aurora........ ... ..Vil.	2,107	1,100	329,925	16,425	10,400	5,904	2 80
Holland Landing....... "	481	1,883	75,526	6,550	....	1,101	2 29
Markham....... ..... "	1,101	459	203,040	19,750	7,300	2,624	2 38
Richmond Hill .... "	879	458	161,800	8,250	3,450	1,897	2 16
Stouffville .... "	1,031	427	206,825	15,250	900	1,890	1 83
Weston.. .... "	984	423	242,700	45,600	1,800	3,398	3 45
Woodbridge........... "	816	500	111,360	8,425	....	1,382	1 69
Urban	13,068	6,692	4,330,383	186,175	43,600	91,678	7 02
ONTARIO :							
Brock ....Tp.	3,804	66,706	2,431,625	156,225	400	15,870	4 17
Mara .... "	3,025	61,382	890,826	90,235	1,100	10,188	3 37
Pickering .... "	6,157	71,412	3,551,115	204,850	7,400	23,973	3 89
Rama... .... "	1,153	32,753	180,089	15,760	600	3,346	2 90
Reach .... "	4,378	62,137	2,179,938	150,220	....	14,626	3 34
Scott .... "	2,281	49,211	1,046,230	14,100	....	8,458	3 71
Scugog .. .. "	575	9,208	315.492	18,500	1,000	2.303	4 01
Thorah .... "	1,484	31,841	559,415	28,550	... .	5,891	3 97
Uxbridge.............. "	3,441	51,851	1,012,300	6,800	....	9,512	2 76
Whitby E............. "	3,107	31,816	1,640,090	123,550	5,900	11.230	3 61
Whitby .... "	2,788	30,815	1,985,620	209,550	400	11,438	4 10
Rural........... "	32,193	499,132	15,792,740	1,018,340	16,800	116,835	3 63
Oshawa...............Tn.	4,119	2,400	1,002,035	44,400	15,100	22,782	5 53
Uxbridge .... "	2,044	423	496,925	26,100	10,450	10,677	5 22
Whitby .... "	2,951	3,800	818 919	49,000	20,830	18,829	6 38
Beaverton ....Vil.	818	405	140,650	7,210	....	2,580	3 15
Cannington .... "	989	468	206,120	12,015	1,500	3,206	3 24
Port Perry............ "	1,901	500	414,150	39,650	9,150	10,874	5 72
Urban	12,822	7,996	3,078,799	178,375	57,030	68,948	5 38
DURHAM :							
Cartwright ....Tp.	2,116	36,904	692,495	42,200	1,550	5,709	2 70
Cavan .... "	3,140	62,569	1,751.400	87,000	2,550	10,232	3 26
Clarke.. .... "	4,769	67,989	2,172,850	133.800	....	14,404	3 02

TABLE No. III.—ASSESSMENT AND TAXATION—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
DURHAM—*Continued.*							
Darlington .... Tp.	4,653	68,407	2,635,430	137,035	4,800	17,756	3 82
Hope .... "	4,300	63,620	2,410,922	108,325	16,911	12,916	3 00
Manvers .... "	3,426	69,305	860,585	59,200	....	9,258	2 70
Rural	22,404	368,794	10,523,682	567,560	25,811	70,275	3 14
Bowmanville.......... Tn.	3,757	3,000	948,880	101,350	43,359	19,100	5 08
Port Hope............ "	5,514	1,027	1,283,355	151,625	84,224	33,700	6 11
Millbrook .... Vil.	1,004	436	169,585	14,650	1,400	3,662	3 65
Newcastle .... "	712	1,895	198,483	4,375	5,900	3,830	5 38
Urban	10,987	6,358	2,600,303	272,000	134,883	60,292	5 49
NORTHUMBERLAND:							
Alnwick .... Tp.	1,122	17,118	417,375	32,700	400	3,980	3 55
Brighton.... .... "	2,881	47,934	1,217,830	60,425	....	8,629	3 00
Cramahe............ "	2,732	46,715	1,093,035	71,875	....	8,821	3 23
Haldimand .... "	4,360	76,053	1,835,150	84,800	100	15,352	3 52
Hamilton .... "	4,464	61,743	2,063,150	110,530	2,700	13,579	3 04
Monaghan S. .... "	1,012	18,324	584,443	53,337	1,000	3,279	3 24
Murray.............. "	3,131	46,384	1,253,750	42,850	3,000	8,269	2 64
Percy............ .... "	3,167	51,196	933,710	74,700	1,700	10,863	3 43
Seymour .... "	3,229	66,586	1,218,295	148,350	....	12,800	3 96
Rural	26,098	432,053	10,616,738	679,567	8,900	85,572	3 28
Cobourg .... Tn.	4,759	2,043	1,394,287	123,625	71,050	36,200	7 61
Brighton .... Vil.	1,650	2,768	429,865	42,550	5,750	6,346	3 85
Campbellford .... "	2,204	600	356,298	25,970	12,025	6,720	3 05
Colborne.............. "	855	1,058	255,105	14,800	3,300	4,251	4 97
Hastings.... .... "	836	560	176,960	15,350	2,500	3,077	3 68
Urban	10,304	7,029	2,612,515	222,295	94,625	56,594	5 49
PRINCE EDWARD:							
Ameliasburg .... Tp.	2,827	43,978	1,169,825	50,825	1,250	11,007	3 89
Athol................ "	1,273	23,947	541,863	36,780	....	4,029	3 16
Hallowell .... "	2,940	43,858	1,497,250	97,450	....	12,252	4 17
Hillier.... .... "	1,793	31,387	757,300	79,345	....	6,398	3 57
Marysburg N.......... "	1,462	23,459	489,964	47,406	....	3,992	2 73
Marysburg S. .. .. "	1,633	23,694	347,376	35,194	2,300	4,668	2 86
Sophiasburg........... "	2,077	43,660	1,069,352	16,225	5,000	8,346	4 02
Rural	14,005	233,983	5,872,930	363.225	8,550	50,692	3 62
Picton .... Tn.	3,034	552	952,150	42,450	17,400	15,018	4 95
Wellington .... Vil.	593	1,423	175,850	7,675	400	1,471	2 48
Urban	3,627	1,975	1,128,000	50,125	17,800	16,489	4 55
LENNOX AND ADDINGTON:							
Adolphustown ... . Tp.	659	11,493	349,888	25,390	3,458	2,529	3 84
Amherst Island .... "	1,025	14,647	352,140	28,460	900	3,978	3 88
Camden East .. .. "	4,760	84,353	1,464,945	125,225	2,600	19,348	4 06
Denbigh, Abinger and Ashby .... "	700	34,324	39,892	9,700	....	950	1 36
Ernesttown .... "	3,232	60,177	1,539,530	40,250	400	16,555	5 12
Fredericksburg N ...... "	1,587	22,787	582,300	31,895	....	5,481	3 45
Fredericksburg S ...... "	1,209	20,417	775,840	8,500	300	6,485	5 36

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of— Real property.	Personal property.	Taxable income.	Taxes imposed for all purposes. Total.	Per head.
NOX AND ADDINGTON—*Continued.*			$	$	$	$	$ c.
Kaladar, Anglesea & Eff. Tp.	1,011	44,759	66,154	7,800	....	1,512	1 50
Richmond .... "	2,048	49,789	885,452	37,225	300	10,309	5 03
Sheffield .... "	2,200	62,390	440,675	27,650	1,750	6,452	2 93
Rural	18,431	405,136	6,496,816	342,095	9,708	73,599	3 99
Napanee .... Tn.	3,273	1,250	891,653	42,350	35,050	19,691	6 02
Bath .... Vil.	518	2,134	108,834	3,650	1,750	1,772	3 42
Newburgh .... "	799	3,200	128,050	1,000	3,000	2,678	3 35
Urban	4,590	6,584	1,128,537	47,000	39,800	24,141	5 26
FRONTENAC:							
Barrie .... Tp.	545	20,439	30,235	4,695	....	1,287	2 36
Bedford .... "	1,512	61,133	117,089	34,791	....	4,116	2 72
Clarendon and Miller .. "	828	39,537	55,683	7,650	100	1,129	1 36
Hinchinbrooke .... "	1,170	61,894	98,743	29,746	....	3,399	2 91
Howe Island .... "	402	8,021	35,212	8,000	....	1,288	3 20
Kennebec .... "	933	33,020	60,330	7,945	....	2,028	2 17
Kingston .... "	2,876	51,838	1,415,430	73,420	2,700	10,182	3 54
Loughborough .... "	1,761	48,495	457,140	30,420	600	5,904	3 35
Olden .... "	868	50,659	90,973	4,305	....	2,544	2 93
Oso .... "	877	40,104	63,190	17,900	....	2,436	2 78
Palmerston and Canonto. "	834	56,247	59,890	12,512	....	1,985	2 38
Pittsburg .... "	2,696	48,308	859,771	78,010	400	11,649	4 32
Portland .... "	2,246	52,783	439,426	29,600	....	6,833	3 04
Storrington .... "	2,041	53,146	442,082	35,410	....	4,999	2 45
Wolfe Island .... "	1,875	30,592	606,197	31,600	....	6,320	3 37
Rural	21,464	656,216	4,831,391	406,004	3,800	66,099	3 08
Garden Island .... Vil.	368	65	31,400	25,000	1,000	1,645	4 47
Portsmouth .... "	799	150	104,960	7,450	6,250	2,520	3 15
Urban	1,167	215	136,360	32,450	7,250	4,165	3 57
LEEDS AND GRENVILLE:							
Augusta .... Tp.	4,374	74,726	1,038,155	138,480	2,668	10,942	2 50
Bastard and Burgess S. "	3,240	56,669	761,652	30,900	750	6,474	2 00
Crosby N .... "	1,667	41,728	369,054	44,400	....	3,909	2 34
Crosby S. .... "	1,736	36,152	376,245	44,350	200	4,589	2 64
Edwardsburg .... "	4,088	70,226	1,092,620	73,500	400	10,587	2 59
Elizabethtown .... "	4,355	75,330	1,326,900	103,650	1,400	11,160	2 56
Elmsley S .... "	856	22,256	184,635	17,365	....	2,466	2 88
Escott Front .... "	1,161	23,153	334,080	7,900	950	3,269	2 82
Gower S. .... "	837	21,761	243,805	17,995	....	2,177	2 60
Kitley .... "	2,091	49,334	485,095	49,875	....	6,328	3 03
Leeds and Lansdowne F. "	3,040	57,691	939,021	37,750	710	*10,339	3 40
Leeds and Lansdowne R. "	2,246	46,752	543,297	53,790	....	6,914	3 08
Oxford .... "	3,158	59,415	776,450	89,000	1,400	7,518	2 38
Wolford .... "	1,859	46,672	382,615	37,450	200	5,067	2 73
Yonge F .... "	1,445	29,380	356,800	11,410	3,200	4,428	3 06
Yonge and Escott Rear. "	1,922	29,380	594,190	43,500	400	7,059	3 67
Rural	38,075	740,625	9,804,614	801,315	12,278	103,226	2 71
Brockville .... Tn.	8,257	1,243	2,823,337	329,798	79,000	55,242	6 69
Prescott .... "	2,921	640	804,230	42,400	15,600	14,227	4 87
Cardinal .... Vil.	695	300	93,575	3,450	400	1,522	2 19
Gananoque .... "	3,320	1,193	713,770	51,450	10,600	13,884	4 18
Kemptville .... "	1,047	366	208,965	15,500	3,600	5,365	5 12

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*Taxes collected, taken from Auditors' report.

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
LEEDS AND GRENVILLE—*Continued.*			$	$	$	$	$ c.
Merrickville ....Vil.	936	722	131,405	13,550	4,200	2,892	3 09
Newboro' .... "	422	1,281	65,885	3,750	1,300	706	1 67
Urban	17,598	5,745	4,841,167	459,898	114,700	93,838	5 33
DUNDAS :							
Matilda ....Tp.	4,158	62,602	1,209,350	28,900	9,500	13,533	3 25
Mountain .... "	2,968	57,600	1,372,018	89,050	....	10,151	3 42
Williamsburg .... "	3,989	59,594	1,103,860	104,290	1,900	11,829	2 97
Winchester .... "	4,411	57,600	1,398,335	189,575	4,125	12,890	2 92
Rural	15,526	237,396	5,083,563	411,815	15,525	48,403	3 12
Iroquois ....Vil.	1,063	800	265,000	21,200	1,000	4,151	3 90
Morrisburg .... "	1,974	1,033	576,875	60,900	11,500	8,430	4 27
Urban	3,037	1,833	841,875	82,100	12,500	12,581	4 14
STORMONT :							
Cornwall ....Tp.	4,362	65,010	1,015,901	125,421	....	11,510	2 64
Finch .... "	2,896	50,768	621,216	800	....	9,893	3 42
Osnabruck .... "	4,952	62,042	1,099,794	55,975	2,380	12,894	2 60
Roxborough .... "	4,211	69,939	627,094	70,910	....	6,902	1 64
Rural	16,421	247,759	3,364,005	253,106	2,380	41,199	2 51
Cornwall (Urban) ......Tn.	6,206	740	1,122,525	60,600	32,300	26,053	4 20
GLENGARRY :							
Charlottenburg ...... Tp.	5,465	82,472	1,225,720	87,990	1,300	11,986	2 19
Kenyon .... "	5,075	78,816	692,678	68,100	....	13,591	2 68
Lancaster .... "	3,995	57,517	818,980	107,370	1,400	8,566	2 14
Lochiel .... "	4,187	71,209	1,012,920	19,700	....	12,799	3 06
Rural	18,722	290,014	3,750,298	283,160	2,700	46,942	2 51
Alexandria (Urban)....Vil.	1,378	361	213,114	9,000	....	3,416	2 48
PRESCOTT :							
Alfred ....Tp.	2,827	43,703	494,500	27,950	....	6,387	2 26
Caledonia .... "	1,681	45,609	245,005	6,700	....	4,155	2 47
Hawkesbury E .... "	3,732	55,991	447,630	11,620	....	8,964	2 40
Hawkesbury W .... "	2,066	24,721	306,675	25,450	....	4,145	2 01
Longueuil .... "	1,025	17,221	173,550	....	....	2,088	2 04
Plantagenet N .... "	3,608	49,021	369,453	52,525	....	9,398	2 60
Plantagenet S .... "	2,785	47,857	361,109	15,400	....	6,837	2 45
Rural	17,724	284,123	2,397,922	139,645	....	41,974	2 37
Hawkesbury ....Vil.	1,503	5,400	198,335	47,450	7,300	5,000	3 33
L'Orignal .... "	813	3,947	116,525	5,000	3,400	2,600	3 20
Urban	2,316	9,347	314,860	52,450	10,700	7,600	3 28
RUSSELL :							
Cambridge ....Tp.	2,733	60,921	358,126	....	600	7,157	2 62
Clarence .... "	4,247	69,587	355,960	23,249	....	9,238	2 18
Cumberland .... "	3,816	74,316	359,513	52,839	....	8,003	2 10
Russell .... "	3,011	48,464	544,055	55,985	....	8,595	2 85
Rural	13,807	253,288	1,617,654	132,073	600	32,993	2 39
Rockland (Urban) .....Vil.	....	....	....	....	....	....	......

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
CARLETON :							
Fitzroy ....Tp.	2,299	58,974	573,079	42,740	....	8,707	3 79
Gloucester .... "	5,774	85,105	1,370,986	62,000	....	13,920	2 41
Goulbourn .... "	2,752	65,091	781,200	58,900	....	9,038	3 28
Gower N .... "	2,394	32,895	536,284	39,420	....	6,398	2 67
Huntley .... "	2,318	61,550	446,880	43,255	....	7,208	3 11
March .... "	1,023	28,063	376,495	19,600	....	3,315	3 24
Marlborough.... ...... "	1,730	57,914	323,682	39,900	....	4,786	2 77
Nepean .... "	9,103	59,500	2,729,255	171,650	....	28,131	3 09
Osgoode .... "	4,288	91,221	1,014,780	112,800	....	13,626	3 18
Torbolton .... "	909	25,748	127,219	5,905	....	2,935	3 23
Rural	32,590	566,061	8,279,860	596,170	....	98,064	3 01
Richmond (Urban).....Vil.	356	1,442	46,144	7,906	....	1,068	3 00
RENFREW :							
Admaston ....Tp.	2,197	67,740	204,188	52,972	....	4,908	2 23
Algona S.............. "	562	27,420	23,917	5,300	....	902	1 60
Alice .... "	1,572	48,546	108,503	23,425	... .	2,769	1 76
Bagot and Blithefield... "	1,066	50,266	61,382	16,591	....	2,669	2 50
Bromley .... "	1,623	49,404	148,543	24,800	....	4,580	2 82
Brougham .... "	420	17,100	19,265	3,100	....	642	1 53
Brudenell and Lynedoch "	1,243	43,257	53,869	13,600	....	1,685	1 36
Grattan............. "	1,789	51,404	75,686	16,365	....	3,043	1 70
Griffith & Matawatchan. "	652	18,813	20,230	2,500	....	925	1 42
Hagerty, Jones, Sherwood, Richards and Burns .... "	1,632	59,274	53,474	6,100	....	1,601	0 98
Head, Clara and Maria. "	296	16,569	26,910	11,055	....	966	3 26
Horton .... "	1,262	37,279	203,788	41,692	....	3,834	3 04
McNab .... "	3,354	62,483	435,815	64,260	....	8,374	2 50
Pembroke............. "	688	8,272	92,850	5,600	....	1,281	1 86
Petewawa.... .... "	621	20,720	29,777	8,404	500	857	1 38
Radcliffe and Raglan... "	828	29,331	34,355	5,850	....	1,192	1 44
Rolph, Wylie and Buchanan.... .... "	712	34,208	45,598	4,200	....	1,604	2 25
Ross......... .... "	2,377	51,129	231,600	38,600	....	5,229	2 20
Sebastopol .... "	640	27,316	22,735	5,740	....	924	1 44
Stafford............... "	1,038	21,257	77,690	16,510	....	2,556	2 46
Westmeath .... "	2,714	69,588	298,476	50,465	9,000	6,501	2 40
Wilberforce & Algona N "	2,183	60,997	97,165	31,398	....	3,599	1 65
Rural	29,469	872,373	2,365,816	448,527	9,500	60,641	2 06
Pembroke..............Tn.	4,065	583	823,200	125,500	42,300	17,152	4 22
Arnprior ....Vil.	2,490	893	444,863	47,800	8,500	9,262	3 72
Renfrew .... "	1,893	2,191	372,390	78,000	3,300	10,732	5 67
Urban	8,448	3,667	1,640,453	251,300	54,100	37,146	4 40
LANARK :							
Bathurst...............Tp.	3,078	61,300	645,000	78,000	....	6,572	2 14
Beckwith .... "	1,718	56,917	495,890	48,835	....	5,313	3 09
Burgess N. .... "	1,100	33,100	163,200	30,800	....	2,054	1 87
Dalhousie & Sherbrooke N "	2,091	70,721	249,071	66,662	....	4,034	1 93
Darling .... "	594	41,671	66,575	26,148	....	1,181	1 99
Drummond .... "	2,049	57,797	688,832	75,109	....	6,357	3 10
Elmsley N .... "	1,071	28,109	314,195	47,616	....	2,814	2 63
Lanark .... "	1,789	57,159	427,895	58,200	....	4,569	2 55
Lavant .... "	613	42,796	67,034	10,298	.. ..	1,460	2 38
Montague.... .... "	2,267	61,284	366,855	51,240	....	5,751	2 54

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of— Real property.	Assessed value of— Personal property.	Assessed value of— Taxable income.	Taxes imposed for all purposes. Total.	Taxes imposed for all purposes. Per head.
			$	$	$	$	$ c.
LANARK.—*Continued.*							
Pakenham ....Tp.	1,772	55,295	407,568	65,437	....	7,278	4 11
Ramsay .... "	2,336	61,450	597,965	86,650	....	8,782	3 76
Sherbrooke S.......... "	897	39,860	94,768	19,221	....	1,784	1 99
Rural	21,375	667,459	4,584,848	664,216	....	57,949	2 71
Almonte ....Tn.	3,213	700	660,133	93,750	13,250	15,039	4 68
Perth................. "	4,401	1,000	955,000	122,000	40,000	21,268	4 83
Smith's Falls........... "	2,922	900	687,410	55,500	5,500	*12,847	4 40
Carleton Place. ....Vil.	3,577	550	555,550	67,450	18,525	11,355	3 17
Lanark .... "	753	2,550	130,304	18,123	2,650	2,452	3 26
Urban	14,866	5,700	2,988,397	356,823	79,925	62,961	4 24
VICTORIA :							
Bexley.................Tp.	722	28,492	143,070	10,125	....	3,020	4 18
Carden .... "	831	31,490	44,535	9,500	....	2,042	2 46
Dalton .... "	527	18,033	19,186	4,100	....	1,277	2 42
Eldon .... "	2,888	62,098	686,890	52,125	....	12,812	4 44
Emily .... "	2,282	60,060	1,019,755	57,090	....	11,955	5 24
Fenelon................ "	2,633	51,890	678,998	71,990	....	7,943	3 02
Laxton, Digby and Longford .... "	826	68,886	50,736	5,475	....	3,356	4 06
Mariposa .... "	4,489	74,191	2,618,520	95,219	....	23,569	5 25
Ops .... "	2,852	55,675	1,570,393	113,546	250	20,677	7 25
Somerville .... "	1,422	62,406	191,833	7,575	....	5,451	3 83
Verulam .... "	2,048	54,499	552,850	51,265	....	8,716	4 26
Rural	21,520	567,720	7,576,766	478,010	250	100,818	4 68
Lindsay ....Tn.	5,459	1,577	1,269,159	125,260	48,900	34,010	6 23
Bobcaygeon...........Vil.	851	500	131,025	30,200	....	2,473	2 91
Fenelon Falls .... "	1,184	502	214,145	17,360	....	5,788	4 89
Omemee .... "	668	406	122,774	2,850	400	1,805	2 70
Woodville..... .... "	499	483	60,575	3,400	200	906	1 82
Urban	8,661	3,468	1,797,678	179,070	49,500	44,982	5 19
PETERBOROUGH :							
Asphodel ....Tp.	1,744	37,601	854,268	53,615	....	8,273	4 74
Belmont and Methuen.. "	1,670	74,807	213,650	20,224	....	4,495	2 69
Burleigh, Anstruther and Chandos .... "	1,345	70,275	92,455	29,512	....	2,879	2 14
Douro .... "	2,098	38,277	849,218	71,300	500	7,855	3 74
Dummer.............. "	1,987	64,856	472,877	55,155	....	5,287	2 66
Ennismore............ "	895	17,236	379,425	16,000	....	3,634	4 06
Galway and Cavendish.. "	709	36,389	39,445	1,911	....	1,242	1 75
Harvey .... "	1,132	60.641	194,297	17,250	....	3,621	3 20
Monaghan N .... "	807	13,837	643,850	36,400	....	3,636	4 51
Otonabee .... "	3,543	64,804	2,100,377	154,960	2,550	13,761	3 88
Smith .... "	2,698	57,490	1,421,505	168,697	....	11,196	4 15
Rural	18,628	536,213	7,261,367	625,024	3,050	65,879	3 54
Peterborough ....Tn.	8,663	1,282	3,250,425	267,300	217,850	47,936	5 53
Ashburnham ....Vil.	1,436	958	367,435	11,675	5,350	4,832	3 36
Lakefield .... "	1,122	500	249,810	31,000	650	3,237	2 89
Norwood .... "	973	440	135,035	12,275	1,300	3,532	3 63
Urban	12,194	3,180	4,002,705	322,250	225,150	59,537	4 88

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* Taxes collected.

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
HALIBURTON:							
Anson and Hindon.....Tp.	287	14,921	34,102	4,317	....	894	3 11
Cardiff................ "	486	25,047	30,584	1,600	....	984	2 02
Dysart, etc............ "	949	363,606	127,315	3,994	100	7,761	8 18
Glamorgan........... "	457	19,677	21,404	100	....	1,388	3 04
Lutterworth.......... "	499	23,896	32,166	2,892	....	1,344	2 69
Minden .... "	1,189	36,466	85,069	7,030	300	2,818	2 37
Monmouth.......... "	422	15,509	20,419	729	....	1,142	2 71
Snowdon............. "	733	33,338	55,789	6,402	....	2,923	3 99
Stanhope and Sherborne "	551	23,985	27,543	2,054	....	1,110	2 01
Rural..............	5,573	556,445	434,391	29,118	400	20,364	3 65
HASTINGS:							
Carlow and Mayo.....Tp.	905	33,266	48,275	6,175	....	1,420	1 57
Elzevir and Grimsthorpe "	1,123	61,502	92,266	3,400	....	3,837	3 42
Faraday and Dungannon "	1,190	69,741	77,640	12,912	....	3,152	2 65
Hungerford............ "	6,013	85,477	676,968	102,072	....	12,559	2 09
Huntingdon.......... "	2,007	56,057	397,321	32,970	....	7,962	3 97
Limerick.............. "	493	43,946	49,512	6,000	36	1,489	3 02
McClure, Wicklow and Bangor .... "	678	23,771	25,665	6,895	....	1,405	2 07
Madoc................ "	3,002	55,572	480,353	500	....	11,653	3 88
Marmora and Lake .... "	1,881	107,077	242,683	23,525	....	5,327	2 83
Monteagle and Herschel "	1,088	47,150	47,415	23,292	....	1,962	1 80
Rawdon.............. "	2,939	68,580	998,575	42,740	....	14,053	4 78
Sidney............... "	3,830	69,213	2,546,310	76,737	7,000	20,748	5 42
Thurlow............. "	4,391	53,353	1,926,410	75,030	....	22,527	5 13
Tudor and Cashel...... "	793	55,493	58,041	5,375	....	2,054	2 59
Tyendinaga.......... "	4,187	78,503	1,404,365	86,000	1,700	19,119	4 57
Wollaston........... "	688	51,126	61,813	2,850	....	2,001	2 91
Rural..............	35,208	959,827	9,133,612	506,473	8,736	131,268	3 73
Trenton...............Tn.	5,019	1,800	1,051,275	41,925	4,900	23,254	4 63
Deseronto............Vil.	2,403	335	283,150	12,500	1,200	7,663	3 19
Madoc............. "	1,008	418	206,320	....	....	4,126	4 09
Stirling............... "	817	800	161,330	3,700	1,250	4,576	5 60
Urban.............	9,247	3,353	1,702,075	58,125	7,350	39,619	4 28
MUSKOKA:							
Brunel.................Tp.	659	38,779	69,832	19,034	100	1,491	2 26
Cardwell (*a*)........... "	375	25,969	37,366	6,773	....	888	2 37
Chaffey.............. "	756	45,249	112,036	17,393	....	2,209	2 92
Draper and Oakley (*b*).. "	1,265	59,585	106,110	15,300	....	2,163	1 71
McLean and Ridout (*b*).. "	733	38,889	84,723	12,215	....	1,105	1 51
Macaulay (*b*)........... "	749	36,100	104,488	9,210	....	2,302	3 07
Medora and Wood (*a*).. "	720	46,037	108,076	11,633	....	1,598	2 22
Monck (*a*).............. "	607	28,388	106,198	15,233	700	2,206	3 63
Morrison (*a*).......... "	551	24,037	80,177	19,713	....	1,638	2 97
Muskoka (*a*)........... "	606	29,198	63,482	7,650	....	1,792	2 96
Ryde (*b*).............. "	683	25,592	52,087	4,800	....	1,540	2 25
Stephenson (*b*)......... "	831	40,389	88,679	27,331	....	2,507	3 02
Stisted................ "	638	40,350	64,579	10,892	1,200	1,453	2 28
Watt (*a*)............. "	822	34,292	76,706	25,210	....	1,686	2 05
Rural..............	9,995	512,854	1,154,539	202,387	2,000	24,578	2 46
Gravenhurst (*a*)........Tn.	1,970	417	192,252	20,410	1,000	8,160	4 14
Bracebridge (*b*).......Vil.	1,102	360	151,378	30,070	4,500	5,306	4 81
Huntsville............ "	589	500	92,017	17,425	600	2,048	3 48
Urban.............	3,661	1,277	435,647	67,905	6,100	15,514	4 24

Attached for municipal purposes to (*a*) Simcoe, (*b*) Victoria.

TABLE No. III.—ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed value of—			Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Per head.
			$	$	$	$	$ c.
PARRY SOUND:							
Armour ....Tp.	881	42,059	174,908	39,849	....	2,450	2 78
Chapman .... “	630	31,569	95,820	26,578	1,250	1,297	2 06
Foley.... .... “	331	26,671	38,389	5,733	....	1,032	3 12
Himsworth .... “	200	8,667	36,915	5,574	....	967	4 84
Humphrey (*a*).......... “	453	28,076	67,070	13,825	....	1,313	2 90
McDougall .... “	333	25,819	65,459	5,888	....	1,348	4 05
McKellar .... “	551	26,548	56,185	5,800	200	1,894	3 44
Ryerson .... “	742	39,859	115,141	18,784	....	1,664	2 24
Strong .... “	840	37,773	172,460	29,100	....	3,023	3 60
Rural	4,961	267,041	822,347	151,131	1,450	14,988	3 02
Parry Sound (Urban)...Tn.	1,329	1,018	206,628	7,725	700	5,186	3 90
ALGOMA, THUNDER BAY AND RAINY RIVER:							
Assiginack............Tp.	984	45,569	160,515	....	....	*3,610	3 67
Billings............... “	403	22,719	56,638	12,939	....	698	1 73
Carnarvon ... . “	440	24,251	70,022	7,150	400	1,134	2 58
Cockburn Island .... “	338	19,009	24,980	10,751	....	877	2 59
Gordon .... “	981	29,342	112,076	....	....	4,078	4 16
Hilton. .... “	182	9,385	27,380	5,310	....	496	2 73
Howland .... “	1,064	40,225	136,330	28,761	....	3,306	3 11
Neebing .. .. “	724	122,180	353,155	7,200	250	5,940	8 20
Oliver .... “	254	27,570	84,298	2,290	....	*1,430	5 63
Rat Portage........... “	951	5,760	242,195	48,800	2,250	7,425	7 81
St. Joseph's Island ..... “	694	28,541	96,311	26,836	....	2,224	3 20
Sandfield ... . “	403	17,053	45,735	8,150	....	984	2 44
Sault Ste. Marie........ “	2,020	47,616	155,846	4,050	....	3,551	1 76
Tehkummah .... “	390	20,107	53,706	4,665	....	1,475	3 78
Rural	9,828	459,327	1,619,187	166,902	2,900	37,228	3 79
Port Arthur ....Tn.	5,216	6,400	1,314,131	158,643	55,060	23,065	4 42
Sault Ste. Marie. ...... “	1,165	2,979	706,093	44,050	10,600	4,135	3 55
Urban	6,381	9,379	2,020,224	202,693	65,660	27,200	4 26
NIPISSING:							
Bonfield. ....Tp.	972	32,182	40,887	13,691	....	1,425	1 47
Ferris .... “	700	19,972	30,020	2,220	....	631	90
Mattawan ... . “	248	9,525	18,861	... .	....	94	38
Papineau . . .. “	340	14,423	39,719	11,034	....	254	75
Springer............... “	388	19,727	35,217	11,455	....	935	2 41
Widdifield .... “	1,063	23,917	129,340	9,300	....	3,553	3 34
Rural	3,711	119,746	294,044	47,700	....	6,892	1 86
Mattawa (Urban) .....Vil.	989	500	133,426	82,065	800	2,191	2 22

* Estimated.

Attached for municipal purposes to (*a*) Simcoe, (*b*) Victoria.

The cities are given in detail in Table II.

FINANCIAL STATEMENT.

RECEIPTS, EXPENDITURE, ASSETS AND LIABILITIES.

TABLE No. IV.—Comparative summary statement of Receipts, Expenditure, Assets and Liabilities of the Municipalities in the Province of Ontario, classified by counties, townships, cities and towns and villages, for the calendar years 1886 and 1887.

Municipalities.		Municipalities organised.		Receipts.	Expenditure.	Assets.	Liabilities.
		No. in Province.	No. returned.				
				$ c.	$ c.	$ c.	$ c.
Counties........	1887	38	38	2,785,580 29	2,486,648 43	5,291,225 98	4,065,283 11
	1886	38	38	2,804,519 53	2,507,948 06	5,090,601 95	4,062,068 22
Townships......	1887	458	449	5,920,173 07	5,516,643 06	3,678,478 45	4,237,396 46
	1886	453	448	5,869,562 72	5,435,736 79	3,680 935 11	4,204,672 56
Cities	1887	11	11	9,967,759 80	9,330,329 70	23,545,727 05	22,413,071 07
	1886	11	11	7,887,182 41	7,304,895 20	21,507,769 22	20,201,304 84
Towns and villages...	1887	202	200	4,715,044 68	4,516.207 49	6,540,926 07	6,934,786 86
	1886	196	195	4,106,484 81	3,877,419 50	6,046,742 09	6,306,323 89
Totals....	1887	709	698	23,388,557 84	21,849,828 68	39,056,357 55	37,650,537 50
	1886	698	692	20,667,749 47	19,125,999 55	36,326,048 37	34,774,369 51

MUNICIPALITIES NOT INCLUDED IN STATEMENT—(*a*) No return, (*b*) incomplete :

1887—Townships of Sandwich W., Essex (*b*); Sheffield, Lennox and Addington (*a*); Mountain, Dundas (*a*); Plantagenet N., Prescott (*b*); Huntley, Carleton (*a*); Westmeath, Renfrew (*a*); Somerville, Victoria (*a*); Mattawan, Nipissing (*a*), and Widdifield, Nipissing (*a*). Villages of Wroxeter, Huron (*b*) and Rockland, Russell (*a*).

1886—Townships of Sandwich W., Essex (*b*); Sheffield, Lennox and Addington (*a*); Huntley Carleton (*a*); Cockburn Island, Algoma (*a*), and Widdifield, Nipissing (*a*). Village of Wroxeter, Huron (*b*).

FINANCIAL STATEMENT.

RECEIPTS, EXPENDITURE, ASSETS AND LIABILITIES.

TABLE No. V.—Summary statement showing details of Receipts, Expenditure, Assets and Liabilities of the Municipalities in the Province of Ontario, classified by counties, townships, cities, and towns and villages, for the year ending December 31, 1887.

Schedule.	Counties.	Townships.	Cities.	Towns and villages.	Totals for all municipalities.
Receipts.	$ c.	$ c.	$ c.	$ c.	$ c.
Balance from 1886	296,571 47	431,382 89	582,287 21	228,943 85	1,539,185 42
Taxes, municipal & school, per—					
(1) Collector	....	4,317,255 90	3,006,882 69	1,875,465 28	9,199,603 87
(2) County treasurer (non-resident taxes)	....	97,968 15	10,666 97	24,017 12	132,652 24
Rates from local municipalities	1,269,497 94	....	....	....	1,269,497 94
Non-resident taxes collected	110,790 78	....	....	....	110,790 78
Licenses, various	15,056 35	27,258 51	138,209 73	58,451 46	238,976 05
Interest on bank deposits and dividends from other investments	34,483 22	75,593 29	145,309 22	34,909 55	290,295 28
Received from Government on account of—					
(1) Schools*	151,911 20	....	....	....	151,911 20
(2) Administration of Justice	118,722 99	....	6,151 00	23 00	124,896 99
(3) Other purposes (except loans)	4,215 25	17,627 15	14,196 42	1,415 08	37,453 90
Fees, rents, tolls, fines, etc	115,829 22	17,984 30	581,673 43	105,030 27	820,517 22
Towns or cities separated from counties	83,835 23	....	....	....	83,835 23
Refund of money loaned or invested	95,353 71	131,085 12	18,177 47	32,427 68	277,043 98
Money borrowed for current expenditure (including advances by treasurers)	356,954 67	365,723 70	3,067,352 52	1,404,102 38	5,194,133 27
Money borrowed on debentures for—					
(1) Tile drainage	....	12,149 44	....	....	12,149 44
(2) Municipal drainage	....	204,596 29	....	....	204,596 29
(3) Other purposes	92,053 04	75,556 15	1,756,729 51	749,068 67	2,673,407 37
Taken from sinking fund	....	11,816 97	73,906 38	76,903 64	162,626 99
Redemption of lands sold for taxes	10,386 13	....	....	....	10,386 13
Miscellaneous	29,919 09	134,175 21	566,217 25	124,286 70	854,598 25
Totals	2,785,580 29	5,920,173 07	9,967,759 80	4,715,044 68	23,388,557 84
Expenditure.					
Taxes paid county treasurer	....	1,105,372 64	....	125,463 37	1,230,836 01
School board on account of school rates	....	1,711,164 61	599,283 60	659,777 64	2,970,225 85
Grants to High, Public and Separate schools	298,835 58	....	....	....	298,835 58
Other payments on account of schools and education	69,419 64	171,666 45	167,393 95	74,599 01	483,079 05
Non-resident taxes to local municipalities	116,421 31	....	....	....	116,421 31
Roads, bridges, streets and parks.	213,044 46	718,534 68	1,415,585 26	591.202 00	2,938,366 40
Buildings and other property	105,270 39	15,643 31	327,111 95	202,056 06	650,081 71
Drainage works & expenses of—					
(1) Tile drainage	....	14,431 80	....	....	14,431 80
(2) Other drainage works	....	259,324 17	....	....	259,324 17
Expenses of municipal gov't. viz.:					
(1) Election of members of council	....	16,153 42	5,339 51	6,046 99	27,539 92
(2) Attendance and mileage at meetings	57,013 38	....	....	....	57,013 38
(3) Allowances, salaries and commissions	89,391 44	265,436 39	155,690 34	138,592 85	649,111 02
(4) Law costs	15,082 82	31,508 08	10,625 12	14,813 59	72,029 61
(5) Printing, advertising, postage and stationery	22,662 57	45,374 77	32,186 28	27,750 64	127,974 26

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* The amount received from Government on account of schools has been omitted in a large number of returns as not being a municipal account. Except in counties, therefore, it has been excluded entirely in Tables IV, V and VI, and the amount deducted from the expenditure on schools.

TABLE No. V.—FINANCIAL STATEMENT, ETC.—*Continued.*

SCHEDULE.	Counties.	Townships.	Cities.	Towns and villages.	Totals for all municipalities.
	$ c.	$ c.	$ c.	$ c.	$ c.
Expenses of municipal gov.—*Con.*					
(6) Insurance, heating, lighting and care of buildings	29,948 12	4,572 09	30,737 34	23,809 04	89,066 59
(7) Lighting of streets, water supply and fire protection.	....	....	446,761 68	228,450 58	675,212 26
(8) Other expenses	33,892 82	6,987 29	36,663 41	10,571 54	88,115 06
Administration of Justice (including police, gaol maintenance, juries and inquests)...........	389,257 61	....	348,668 91	58,843 79	796,770 31
Debentures redeemed	155,255 18	264,877 77	156,180 44	250,586 71	826,900 10
Refund of money borrowed for current expenditure...........	345,875 76	345,696 76	2,907,736 51	1,291,570 93	4,890,879 96
Interest on loans, advances and debentures	205,657 71	164,273 01	1,096,742 91	345,296 72	1,811,970 35
Sinking fund investments—					
(1) Mortgages	78,568 00	61,757 69	....	25,999 64	166,325 33
(2) Debentures of other municipalities	16,500 00	13,324 05	2,672 80	480 00	32,976 85
(3) Debentures of municipality.	500 00	4,431 34	247,963 25	9,741 66	262,636 25
(4) Loans and deposits.........	114,093 20	95,734 27	52,488 53	196,690 69	459,006 69
Sheep killed by dogs............	....	17,248 30	....	....	17,248 30
Support of poor and other charities	43,891 12	64,472 96	84,794 34	37,912 44	231,070 86
Redemption money paid lands sold for taxes..................	8,776 10	....	....	....	8,776 10
Board of Health................	....	9,011 12	90,065 49	7,090 54	106,167 15
Miscellaneous	77,291 22	109,646 09	1,115,638 08	188,861 06	1,491,436 45
Totals..............	2,486,648 43	5,516,643 06	9,330,329 70	4,516,207 49	21,849,828 68
Balance on hand...............	298,931 86	403,530 01	637,430 10	198,837 19	1,538,729 16
ASSETS.					
Land, buildings, furniture, etc...	2,827,065 33	336,377 99	12,157,508 01	3,389,490 49	18,710,441 82
Stock in public works (including waterworks and local improvements)	316,353 00	92,128 00	6,212,740 63	1,029,856 13	7,651,077 76
Mortgages......................	220,364 95	463,821 81	611 80	306,047 81	990,846 37
Debentures.....................	547,983 19	567,247 31	1,373,115 93	153,610 02	2,641,956 45
Other investments (including deposits in bank of special funds).	279,133 20	513,075 76	282,140 43	390,537 40	1,464,886 79
Uncollected taxes for 1887.......	....	1,065,447 64	845,356 51	540,216 06	2,451,020 21
Other arrears of taxes (estimated)	....	81,379 37	66,370 83	101,706 45	249,456 65
Due from local municipalities....	714,483 25	....	....	....	714,483 25
Cash in hand of treasurer........	58,929 06	285,661 12	6,594 92	94,388 95	445,574 05
Cash at credit in bank.	240,002·80	117,868 89	630,835 18	104,448 24	1,093,155 11
Miscellaneous	86,911 20	155,470 56	1,970,452 81	430,624 52	2,643,459 09
Totals.............	5,291,225 98	3,678,478 45	23,545,727 05	6,540,926 07	39,056,357 55
LIABILITIES.					
County rates	....	391,918 13	....	65,788 99	457,707 12
Local school rates..............	....	190,308 09	69,767 48	109,780 95	369,856 52
School grants...........	45,474 27	....	....	....	45,474 27
Debentures outstanding for—					
(1) Aid to railways	1,784,267 59	1,577,781 00	2,183,257 88	1,217,445 85	6,762,752 32
(2) All other objects.....	1,724,633 02	1,576,646 58	17,264,542 85	4,676,754 48	25,242,576 93
Coupons on debentures due and unpaid..................... .	30,540 90	5,693 63	187,325 22	15,131 61	238,691 36
Loans for current expenditure and interest on same	338,577 65	155,337 67	1,095,936 37	595,901 93	2,185,753 62
Due to local municipalities for non-resident taxes collected....	22,708 54	....	....	....	22,708 54
Miscellaneous	119,081 14	339,711 36	1,612,241 27	253,983 05	2,325,016 82
Totals.	4,065,283 11	4,237,396 46	22,413,071 07	6,934,786 86	37,650,537 50

FINANCIAL STATEMENT.

RECEIPTS, EXPENDITURE, ASSETS AND LIABILITIES.

TABLE No. VI.—Summary statement showing details of Receipts, Expenditure, Assets and Liabilities of the Municipalities in the Province of Ontario, classified by counties, townships, cities, and towns and villages, for the year ending December 31, 1886.

Schedule.	Counties.	Townships.	Cities.	Towns and villages.	Totals for all municipalities.
Receipts.	$ c.	$ c.	$ c.	$ c.	$ c.
Balance from 1885	286,903 33	385,131 89	774,633 53	180,786 22	1,627,454 97
Taxes, municipal & school, per—					
(1) Collector		4,283,374 65	2,681,295 99	1,767,322 54	8,731,993 18
(2) County treasurer (non-resident taxes)		99,804 59	5,822 61	24,136 74	129,763 94
Rates from local municipalities	1,245,154 40				1,245,154 40
Non-resident taxes collected	112,116 50				112,116 50
Licenses, various	14,591 45	30,584 87	127,982 01	57,041 12	230,199 45
Interest on bank deposits and dividends from other investments	31,912 47	75,111 54	99,802 09	28,901 24	235,727 34
Received from Government on account of—					
(1) Schools	148,554 93				148,554 93
(2) Administration of Justice	127,069 90		4,810 65	118 61	131,999 16
(3) Other purposes (except loans)	1,377 38	96,254 96	15,846 83	4,099 80	117,578 97
Fees, rents, tolls, fines, etc.	42,628 60	17,090 48	521,288 48	106,528 53	687,536 09
Towns or cities separated from counties	114,989 61				114,989 61
Refund of moneys loaned or invested	84,044 59	112,058 42	220,867 00	76,557 11	493,527 12
Money borrowed for current expenditure (including advances by treasurers)	400,645 04	335,806 27	1,947,319 65	1,111,649 22	3,795,420 18
Money borrowed on debentures for—					
(1) Tile drainage		14,700 00			14,700 00
(2) Municipal drainage		178,028 27			178,028 27
(3) Other purposes	128,191 67	85,464 74	833,561 83	599,958 45	1,647,176 69
Taken from sinking fund	25,036 42	17,150 65	10,255 60	35,212 40	87,655 07
Redemption of lands sold for taxes	8,599 36				8,599 36
Miscellaneous	32,703 88	139,001 39	643,696 14	114,172 83	929,574 24
Totals	2,804,519 53	5,869,562 72	7,887,182 41	4,106,484 81	20,667,749 47
Expenditure.					
Taxes paid county treasurer		1,088,648 03		128,830 14	1,217,478 17
School boards on account of school rates		1,707,290 10	488,591 41	603,566 31	2,799,447 82
Grants to High, Public and Separate schools	311,557 63				311,557 63
Other payments on account of schools and education	52,086 88	165,553 54	71,185 59	88,838 35	377,664 36
Non-resident taxes to local municipalities	109,428 27				109,428 27
Roads, bridges, streets and parks	225,103 49	709,162 47	1,067,450 38	462,677 53	2,464,393 87
Buildings and other property	78,098 42	10,052 98	117,402 56	155,996 62	361,550 58
Drainage works & expenses of—					
(1) Tile drainage		16,767 45			16,767 45
(2) Other drainage works		234,447 49			234,447 49
Expenses of municipal government, viz.:					
(1) Election of members of council		15,348 70	5,979 38	5,756 93	27,085 01
(2) Attendance and mileage at meetings	54,568 42				54,568 42
(3) Allowances, salaries and commissions	96,968 68	264,119 22	148,900 52	131,540 44	641,528 86
(4) Law costs	8,763 82	29,237 76	9,465 09	26,779 11	74.245 78
(5) Printing, advertising, postage, stationery	22,722 21	43,365 84	28,265 09	25,612 72	119,965 86
(6) Insurance, heating, lighting and care of buildings	30,226 23	4,254 25	19,804 52	20,929 26	75,214 26

TABLE No. VI.—FINANCIAL STATEMENT, ETC.—*Continued.*

SCHEDULE.	Counties.	Townships.	Cities.	Towns and villages.	Totals for all municipalities.
Expenses of municipal gov.—*Con.*	$ c.	$ c.	$ c.	$ c.	$ c.
(7) Lighting of streets, water supply and fire protection.	....	....	389,242 07	198,153 74	587,395 81
(8) Other expenses	14,967 40	9,079 90	12,941 45	16,743 09	53,731 84
Administration of Justice (including police, gaol maintenance, juries and inquests).	386,587 70	14 00	375,482 85	51,579 73	813,664 28
Debentures redeemed	238,197 49	252,328 87	137,002 29	266,379 93	893,908 58
Refund of money borrowed for current expenditure	392,005 73	333,005 94	1,932,794 09	946,915 98	3,604,721 74
Interests on loans, advances and debentures	188,338 43	152,505 91	1,029,335 32	311,128 47	1,681,308 13
Sinking fund investments—					
(1) Mortgages	25,412 60	51,545 08	....	22,632 40	99,590 08
(2) Debentures of other municipalities	42,451 00	30,363 58	1,782 40	19,000 00	93,596 98
(3) Debentures of municipality.	....	....	441,858 00	20,470 93	462,328 93
(4) Loans and deposits	108,014 55	99,051 78	64,599 55	100,183 55	371,849 43
Sheep killed by dogs	....	15,312 48	....	....	15,312 48
Support of poor and other charities	46,325 67	64,915 73	78,223 36	37,852 55	227,317 31
Redemption money paid lands sold for taxes	7,495 37	....	....	....	7,495 37
Board of Health	....	14,164 69	88,634 96	11,754 03	114,553 68
Miscellaneous	68,628 07	125,201 00	795,954 32	224,097 69	1.213,881 08
Totals	2,507,948 06	5,435,736 79	7,304,895 20	3,877,419 50	19,125,999 55
Balance on hand	296,571 47	433,825 93	582,287 21	229,065 31	1,541,749 92
ASSETS.					
Land, buildings, furniture, etc.	2,770,366 96	330,886 84	11,384,898 10	3,299,093 01	17,785,244 91
Stock in public works (including waterworks and local improvements)	316,452 00	92,128 00	6,138,287 60	837,414 01	7,384,281 61
Mortgages	154,226 37	440,798 71	1,011 80	279,774 68	875,811 56
Debentures	543,365 85	584,031 44	1,012,479 88	161,655 50	2,301,532 67
Other investments (including deposits in bank of special funds).	237,764 79	481,985 36	290,066 92	262,414 37	1,272,231 44
Uncollected taxes for 1886	....	1,077,084 81	943,715 40	572,255 81	2,593,056 02
Other arrears of taxes (estimated)	....	94,658 27	112,428 48	65,169 81	272,256 56
Due from local municipalities	700,361 81	....	....	....	700,361 81
Cash in hand of treasurer	55,274 91	317,426 33	33,199 42	84,444 46	490,345 12
Cash at credit in bank	241,296 56	116,399 60	549,087 79	144,620 85	1,051,404 80
Miscellaneous (including fire appliances)	71,492 70	145,535 75	1,042,593 83	339,899 59	1,599,521 87
Totals	5,090,601 95	3,680,935 11	21,507,769 22	6,046,742 09	36,326,048 37
LIABILITIES.					
County rates	....	374,176 46	....	66,847 16	441,023 62
Local school rates	....	193,800 35	77,064 27	113,584 67	384,449 29
School grants	43,488 09	....	....	....	43,488 09
Debentures outstanding for—					
(1) Aid to railways	1,803,102 84	1,636,645 04	2,068,688 44	1,220,718 65	6,729,154 97
(2) All other objects	1,710,429 41	1,517,001 03	15,797,181 69	4,178,884 41	23,203,496 54
Coupons on debentures due and unpaid	32,162 48	3,983 62	169,723 05	15,009 38	220,878 53
Loans for current expenditure and interest on same	324,798 24	127,974 09	936,306 19	479,442 94	1,868,521 46
Due to local municipalities for non-resident taxes collected	30,344 11	....	....	....	30,344 11
Miscellaneous	117,743 05	351,091 97	1,152,341 20	231,836 68	1,853,012 90
Totals	4,062,068 22	4,204,672 56	20,201,304 84	6,306,323 89	34,774,369 51

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE No. VII.—Detailed statement of Receipts, Expenditure, Assets and Liabilities of the

Number.	Counties.	Receipts.					
		Balance from 1886.	Rates from local municipalities.	Non-resident taxes collected.	Interest on bank deposits and dividends from other investments.	Received from Government on account of—	
						Schools.	Administration of Justice.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	8,992 77	30,040 93	14,130 47	....	3,750 00	3,479 58
2	Kent	....	35,257 79	6,731 18	202 08	3,980 00	2,533 30
3	Elgin	1,286 35	53,805 00	1,284 62	201 63	3,483 00	7,218 09
4	Norfolk	61 76	17,714 00	1,332 89	161 08	3,146 00	2,265 45
5	Haldimand	6,870 85	21,355 90	....	....	2,409 00	2,532 98
6	Welland	6,445 26	26,655 75	203 89	....	2,289 00	3,070 72
7	Lambton	6,921 27	25,780 65	21,888 54	129 75	3,777 00	2,858 51
8	Huron	1,915 50	64,653 64	2,035 36	4,984 79	6,369 00	1,869 68
9	Bruce	9,098 71	63,902 02	3,608 76	3,508 65	5,399 00	3,712 38
10	Grey	33,784 92	45,128 63	6,302 52	9,376 07	7,121 00	3,041 95
11	Simcoe	39,084 09	69,241 55	11,415 47	220 00	6,754 00	4,688 65
12	Middlesex	2,610 03	82,345 15	3,974 90	853 14	6,731 00	6,148 07
13	Oxford	42,592 64	51,839 67	350 07	4,257 67	3,706 00	2,620 06
14	Brant	9,138 17	16,167 35	143 07	443 34	2,131 00	2,667 33
15	Perth	8,878 62	52,737 39	1,725 46	163 93	3,887 00	1,892 05
16	Wellington	4,010 51	59,068 01	3,765 07	187 49	4,657 00	3,154 64
17	Waterloo	6,846 35	36,672 00	32 83	880 00	3,033 00	3,664 01
18	Dufferin	253 66	26,163 01	5,026 24	....	3,204 00	763 86
19	Lincoln	4,535 88	21,354 94	127 20	51 70	1,858 00	2,028 06
20	Wentworth	26,276 87	16,258 53	33 26	672 49	3,211 00	5,453 98
21	Halton	13,873 11	25,815 41	181 79	3,203 90	1,841 00	1,317 01
22	Peel	1,925 12	22,864 14	169 02	61 15	2,409 00	1,242 25
23	York	248 19	35,060 33	....	....	5,544 00	17,307 93
24	Ontario	....	20,022 00	1,552 45	....	4,188 00	2,947 76
25	Durham and Northumberland	14,801 69	23,098 00	385 19	....	6,312 00	2,487 80
26	Prince Edward	3,399 29	26,803 91	....	222 72	1,972 00	1,453 76
27	Lennox and Addington	47 56	40,617 52	164 74	....	2,906 00	1,212 94
28	Frontenac	4,272 21	30,879 09	2,282 40	274 24	2,738 00	1,990 97
29	Leeds and Grenville	7,743 95	20,259 00	98 99	....	4,956 00	1,848 00
30	Dundas, Stormont & Glengarry	2,770 25	12,269 52	806 15	23 42	6,456 00	1,524 11
31	Prescott and Russell	2,927 24	13,315 32	3,350 48	....	3,426 00	1,347 28
32	Carleton	3,473 31	21,446 44	1,601 72	246 50	3,683 00	5,273 56
33	Renfrew	6,950 34	13,249 16	1,760 60	....	6,987 00	3,584 78
34	Lanark	12,002 90	13,525 88	2,194 17	112 40	2,783 00	1,130 75
35	Victoria	196 89	41,772 23	4,563 35	2,187 43	5,625 00	2,177 81
36	Peterborough	1,669 11	20,804 52	2,168 51	35 61	2,373 00	2,016 52
37	Haliburton	655 14	9,353 63	2,196 40	....	2,497 20	150 00
38	Hastings	10 96	62,199 93	3,203 02	1,822 04	4,320 00	4,046 41
	Totals	296.571 47	1,269,497 94	110,790 78	34,483 22	151,911 20	118,722 99

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

County Municipalities in the Province of Ontario for the year ending December 31, 1887.

Receipts.—*Continued.*									
Licenses, various.	Fees, rents, tolls, fines, etc.	Towns or cities separated from counties for various services.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures.	Redemption lands sold for taxes.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
140 00	45 00	2,000 00	....	2,000 00	....	1,195 65	2,449 56	68,223 96	1
260 00	5,332 55	4,861 10	....	6,257 46	8,400 00	1,230 04	2,514 24	77,559 74	2
416 00	3,224 00	....	....	25,000 00	....	....	157 03	96,075 72	3
244 00	834 29	....	....	12,000 00	....	56 50	267 81	38,083 78	4
70 00	1,447 68	....	....	....	....	....	....	34,686 41	5
260 00	341 53	1,367 10	....	10,225 64	....	....	1,851 20	52,710 09	6
353 25	6,414 30	....	....	6,526 80	....	1,694 00	44 93	76,389 00	7
1,445 00	3,134 61	....	5,000 00	22,500 00	....	38 16	598 80	114,544 54	8
562 00	6,265 83	....	50,311 00	1,000 00	....	1,313 31	5,886 39	154,568 05	9
641 25	1,139 36	....	12 50	....	....	16 94	135 58	106,700 72	10
1,220 00	10,390 21	....	1,600 00	....	....	1,510 67	910 85	147,035 49	11
566 00	11,455 56	6,474 52	1,170 00	4,000 00	21,000 00	21 16	2,265 92	149,615 45	12
620 00	4,711 83	....	....	24,182 00	....	355 95	686 58	135,922 47	13
290 00	787 23	2,850 00	....	....	16,500 00	....	118 67	51,236 16	14
366 00	183 74	5,009 54	....	49,000 00	....	....	367 04	124,210 77	15
368 00	4,664 70	3,243 65	....	26,500 00	....	54 98	1,037 04	110,711 09	16
440 00	100 38	....	....	15,000 00	....	....	1,043 24	67,711 81	17
120 00	552 05	....	....	7,119 98	....	....	48 07	43,250 87	18
120 00	1,269 08	5,357 26	....	11,000 00	17,353 97	8 00	1,032 22	66,096 31	19
136 00	8,805 50	14,123 22	....	....	....	....	579 49	75,550 34	20
285 00	902 20	....	10,856 00	....	....	....	42 00	58,317 42	21
210 00	....	....	....	13,500 00	....	....	74 85	42,455 53	22
922 00	3,932 56	15,559 77	2,500 00	7,847 31	....	....	200 00	89,122 09	23
566 00	6,470 64	....	....	15,516 89	....	445 71	532 23	52,241 68	24
650 00	6,271 65	2,278 00	....	....	....	....	....	56,284 33	25
50 00	111 99	....	....	....	13,799 07	....	1,518 25	49,330 99	26
202 00	1,605 03	....	....	1,826 30	....	....	25 25	48,607 34	27
177 00	3,680 70	2,041 72	1,614 48	....	15,000 00	....	141 49	65,092 30	28
900 00	3,115 40	2,980 00	....	....	....	....	2 50	41,903 84	29
623 00	5,935 65	....	....	39,200 00	....	....	5,723 64	75,331 74	30
255 00	....	....	....	2,300 00	....	525 35	....	27,446 67	31
150 00	1,555 04	6,696 00	....	....	....	....	397 38	44,522 95	32
340 00	3,000 24	....	....	2,000 00	....	157 28	191 44	38,220 84	33
354 30	496 13	625 00	....	....	....	....	136 56	33,361 09	34
241 00	6,117 44	400 00	1,659 84	18,500 00	....	1,213 56	789 08	85,443 63	35
139 05	1,463 17	2,968 35	6,150 00	11,519 04	....	548 87	760 05	52,615 80	36
69 50	42 95	....	....	12,099 50	....	....	....	27,064 32	37
285 00	29 00	5,000 00	14,479 89	10,333 75	....	....	1,604 96	107,334 96	38
15,056 35	115,829 22	83,835 23	95,353 71	356,954 67	92,053 04	10,386 13	*34,134 34	2,785,580 29	

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* Including $4,215.25 received from Government other than for schools, administration of justice and loans.

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE No. VII.—Detailed statement of Receipts, Expenditure,

Number.	Counties.	Expenditure.				
		Grants to High, Public and Separate schools.	Other payments on account of schools and education.	Non-resident taxes paid local municipalities.	Roads and bridges.	Buildings and other property.
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	4,800 00	1,786 49	13,806 73	7,860 65	....
2	Kent	9,136 23	5,334 60	10,886 02	8,230 36	2,135 85
3	Elgin	12,066 00	544 50	2,264 22	3,063 34	659 56
4	Norfolk	6,570 68	1,391 25	1,301 03	364 25	211 01
5	Haldimand	6,154 31	670 00	....	358 25	....
6	Welland	4,291 29	1,245 27	....	1,823 72	9,235 15
7	Lambton	5,910 63	2,389 04	21,888 54	8,728 76	2,775 81
8	Huron	15,533 22	2,819 27	1,818 66	13,661 56	511 99
9	Bruce	4,352 26	12,671 00	6,158 61	10,794 80	....
10	Grey	9,177 50	2,309 40	6,986 99	4,147 47	43 00
11	Simcoe	10,804 91	3,519 34	11,388 02	5,239 44	....
12	Middlesex	14,681 68	2,593 74	3,660 87	22,654 11	....
13	Oxford	9,882 11	686 00	1,000 84	5,758 44	1,102 73
14	Brant	5,703 49	814 00	143 07	1,418 21	14,860 85
15	Perth	9,155 65	1,908 92	1,958 59	10,523 84	39,499 27
16	Wellington	7,649 89	1,711 87	3,524 39	13,949 16	2,964 46
17	Waterloo	11,922 39	274 30	92 50	4,260 53	846 61
18	Dufferin	6,761 55	915 59	4,507 45	400 56	362 91
19	Lincoln	6,360 00	598 18	352 85	5,554 74	12,434 37
20	Wentworth	4,337 34	1,521 94	59 82	4,041 58	....
21	Halton	5,741 00	1,220 77	123 62	....	....
22	Peel	5,531 00	682 32	76 55	332 60	146 20
23	York	13,888 00	2,468 68	....	6,888 15	2,704 20
24	Ontario	11,590 35	1,800 80	1,792 57	1,159 83	1,961 25
25	Durham and Northumberland	9,055 01	975 47	385 19	960 38	2,003 14
26	Prince Edward	5,872 60	960 30	....	50 00	....
27	Lennox and Addington	8,642 94	500 19	125 89	13,673 06	92 30
28	Frontenac	6,903 75	560 00	2,006 59	2,755 00	....
29	Leeds and Grenville	12,017 58	1,743 58	98 99	846 35	439 75
30	Dundas, Stormont and Glengarry	8,309 00	3,496 93	341 46	....	2,863 14
31	Prescott and Russell	4,780 06	1,063 40	4,714 53	2,687 47	223 97
32	Carleton	3,738 50	1,030 72	301 88	2,219 39	3,030 10
33	Renfrew	6,329 44	1,718 43	360 03	8,344 76	129 48
34	Lanark	4,493 92	519 94	2,308 32	86 00	447 62
35	Victoria	12,629 58	1,664 16	4,638 13	6,711 03	161 56
36	Peterborough	5,550 51	831 00	1,859 85	4,209 51	2,141 56
37	Haliburton	3,173 20	338 38	2,196 40	....	17 06
38	Hastings	5,338 01	2,139 87	3,292 11	29,287 16	1,265 49
	Totals	298,835 58	69,419 64	116,421 31	213,044 46	105,270 39

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

Assets and Liabilities of the County Municipalities, etc.—*Continued.*

EXPENDITURE.—*Continued.*

Expenses of municipal government.									
Attendance and mileage at meetings of council and committees.	Allowances, salaries and commissions.	Law costs.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Other expenses of municipal government.	Administration of Justice (including gaol maintenance, jurors and inquests.	Debentures redeemed.	Refund of money borrowed for current expenditure.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1,127 50	2,225 00	... .	469 05	607 50	3,774 61	11,514 34	2,100 00	3,470 00	1
2,436 05	1,866 60	96 58	363 31	1,170 57	625 00	12,386 52	16,204 39	238 23	2
998 50	3,459 16	976 66	450 97	531 80	411 00	14,494 53	10,000 00	18,000 00	3
691 80	1,150 00	129 31	497 65	447 01	....	6,607 94	....	12,000 00	4
715 50	1,990 00	13 94	225 00	440 00	994 82	6,453 87	4,000 00	....	5
....	3,610 60	....	495 83	715 42	687 54	8,558 32	....	18,000 00	6
1,524 00	1,840 30	....	703 54	147 51	4,958 07	9,960 08	1,400 00	6,526 80	7
1,618 30	2,328 00	....	547 31	670 51	....	9,450 43	....	10,000 00	8
2,808 55	2,858 60	....	630 07	....	3,804 24	12,113 61	....	1,000 00	9
2,839 15	2,150 00	....	243 32	1,167 92	1,696 27	12,224 52	....	....	10
3,922 40	3,205 00	63 22	680 78	682 03	310 83	18,761 41	19,700 00	11,000 00	11
2,099 90	2,650 00	5,250 00	448 03	1,111 19	....	19,686 27	20,000 00	10,000 00	12
1,337 83	3,895 00	115 23	853 51	290 50	610 20	10,349 13	4,800 00	6,000 00	13
397 30	1,434 30	....	363 39	1,371 32	86 35	8,526 57	700 00	....	14
1,414 30	2,407 00	53 25	386 79	611 12	....	9,887 60	3,893 30	23,500 00	15
1,450 40	2,230 00	55 50	327 67	1,033 48	8,900 00	10,246 65	17,800 00	25,000 00	16
1,310 80	3,641 60	....	999 46	1,001 23	....	7,380 21	7,400 00	15,000 00	17
481 80	880 00	187 06	213 36	190 00	....	8,103 77	1,300 00	13,655 75	18
1,009 30	2,499 66	....	442 51	1,901 64	....	7,790 28	1,700 00	16,000 00	19
1,883 30	2,500 00	....	494 25	476 00	....	21,005 87	4,000 00	....	20
228 70	1,129 00	....	163 95	296 25	551 64	5,439 94	4,800 00	2,500 00	21
696 90	2,406 95	7 20	722 09	625 00	....	3,254 49	5,500 00	13,500 00	22
3,438 50	3,930 00	708 73	1,821 99	2,757 73	1,081 79	37,178 38	4,090 00	....	23
1,554 30	100 00	....	565 15	944 15	....	7,454 66	... .	19,916 22	24
2,767 00	4,645 00	....	654 89	566 53	1,600 00	11,933 92	....	....	25
944 80	954 80	917 00	470 47	620 48	32 60	4,807 27	....	30,000 00	26
1,653 00	3,754 77	622 38	1.073 20	686 11	....	3,750 07	2,700 00	700 85	27
1,034 40	2,735 20	8 00	814 88	1,620 26	128 20	9,615 53	15,000 00	....	28
2,259 50	3,558 98	....	471 08	344 80	1,807 48	5,044 61	....	....	29
1,354 40	989 00	72 65	733 83	318 51	632 55	14,846 92	3,632 49	20,200 00	30
686 80	840 00	....	488 15	279 62	1,173 88	4,898 59	1,000 00	2,000 00	31
2,441 95	2,100 00	877 88	418 98	2,000 00	....	11,873 37	....	....	32
1,532 30	2,758 25	7 00	578 03	494 90	....	7,043 55	687 00	3,000 00	33
1,103 50	2,960 85	20 00	382 49	667 67	....	5,330 96	....	....	34
1,497 65	2.280 00	445 13	1,340 74	848 63	....	10,233 76	. ...	25,600 00	35
944 20	1,782 00	4,456 10	986 67	1,193 33	... .	8,554 28	. ...	7,500 00	36
191 45	605 82	....	288 38	135 50	25 75	737 00	2.848 00	14,000 00	37
2,619 35	3,040 00	....	851 80	981 90	....	11,758 39	....	17,567 91	38
57,013 38	89,391 44	15,082 82	22,662 57	29,948 12	33,892 82	389,257 61	155,255 18	345,875 76	

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE NO. VII.—Detailed statement of Receipts, Expenditure,

Number.	Counties.	EXPENDITURE.—*Continued.*					
		Interest on loans and advances.	Sinking fund investments.				Redemption money paid land sold for taxes.
			Mortgages.	Debentures of other municipalities.	Debentures of the municipality.	Loans and deposits.	
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	1,063 12					1,162 09
2	Kent	665 90					1,120 13
3	Elgin	3,259 10					
4	Norfolk	185 85					56 50
5	Haldimand	3,041 66				1,000 00	
6	Welland	848 25					
7	Lambton	460 71					
8	Huron	17,425 82	33,493 50				47 58
9	Bruce	6,757 90				77,342 36	744 86
10	Grey	15,000 00		15,000 00	500 00		
11	Simcoe	14,322 15					1,693 25
12	Middlesex	29,360 00					129 30
13	Oxford	14,147 32	11,000 00			18,182 00	399 89
14	Brant	800 00					
15	Perth	15,308 45					
16	Wellington	5,424 40					1 10
17	Waterloo	3,819 97					
18	Dufferin	2,428 71				1,823 10	483 35
19	Lincoln	3,051 32					8 00
20	Wentworth	4,350 00					
21	Halton	6,234 37	6,500 00			5,226 70	
22	Peel	2,429 41					
23	York	1,234 61					
24	Ontario	1,149 85					445 61
25	Durham and Northumberland						
26	Prince Edward	3,168 32					
27	Lennox and Addington	8,661 37					
28	Frontenac	15,639 46					
29	Leeds and Grenville	900 00				4,000 00	
30	Dundas, Stormont and Glengarry	496 07					
31	Prescott and Russell	521 19					367 01
32	Carleton	3,546 50					
33	Renfrew	1,837 77					81 25
34	Lanark						
35	Victoria	6,738 26	7,524 50				1,209 37
36	Peterborough	2,476 09		1,200 00		6,519 04	473 03
37	Haliburton	2,000 80					20 64
38	Hastings	6,903 01	20,050 00	300 00			333 14
	Totals	205,657 71	78,568 00	16,500 00	500 00	114,093 20	8,776 10

FINANCIAL STATEMENT.—COUNTY MUNICIPALITIES.

Assets and Liabilities of the County Municipalities, etc.—*Continued.*

EXPENDITURE.—*Continued.*			Balance December 31, 1887.	ASSETS.					
Support of the poor and other charities.	Miscellaneous.	Total.		Land buildings, furniture, etc.	Stock in public works.	Mortgages.	Debentures.	Other investments, including special deposits.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
....	148 00	55,915 08	12,308 88	62,500 00	....	....	....	....	1
....	4,663 40	77,559 74	....	40,669 30	....	....	....	....	2
4,322,51	101 10	75,600 95	20,474 77	101,275 82	....	....	....	....	3
4,058 40	773 66	36,436 34	1,647 44	40,000 00	....	....	....	....	4
....	....	26,057 35	8,629 06	25,000 00	....	....	....	13,814 46	5
3,035 32	7 00	52,553 71	156 38	72,086 20	....	....	....	....	6
225 27	1,997 28	71,436 34	4,952 66	30,000 00	....	....	....	....	7
553 97	490 79	110,970 91	3,573 63	50,000 00	....	80,800 00	19,500 00	....	8
404 80	7,034 84	149,476 50	5,091 55	54,300 00	....	....	11,400 00	57,000 00	9
....	1,968 00	75,453 54	31,247 18	70,285 42	....	....	197,600 00	....	10
254 00	1.904 22	107,451 00	39,584 40	150,000 00	182,580 00	....	15,800 00	....	11
9,721 88	5,087 18	149,134 15	481 30	108,000 00	....	....	....	23,000 00	12
10 00	4,927 65	95,348 38	40,574 09	50,000 00	....	72,200 00	235,300 00	90,910 00	13
279 60	3,225 31	40,123 76	11,112 40	80,000 00	....	....	....	....	14
....	726 27	121,234 35	2,976 42	108,202 00	....	....	....	....	15
7,227 50	775 08	110,271 55	439 54	80,000 00	....	....	....	....	16
4,372 77	3,401 73	65,727 10	1,984 71	70,000 00	....	....	....	20,000 00	17
....	100 58	42,795 54	455 33	37,618 87	....	....	....	1,823 10	18
881 00	2,302 34	62,886 19	3,210 12	94,000 00	....	....	....	....	19
200 00	2,431 97	47,302 07	28,248 27	210,000 00	....	....	....	....	20
....	....	40,155 94	18,161 48	50,000 00	....	21,394 95	11,244 00	23,221 25	21
....	3,580 86	39,491 57	2,963 96	52,482 72	....	....	....	....	22
6,109 24	822 09	89,122 09	....	74,500 00	61,773 00	....	21,800 00	....	23
....	1,806 94	52,241 68	....	55,000 00	....	....	....	....	24
....	2,947 64	38,494 17	17,790 16	52,000 00	....	....	2,090 00	....	25
....	204 91	49.003 55	327 44	40,000 00	....	....	....	....	26
100 00	835 64	47,571 77	1,035 57	55,000 00	....	....	....	2,800 00	27
....	3,990 14	62,811 41	2,280 89	110,000 00	22,000 00	....	....	2,764 00	28
....	4,527 98	38,060 68	3,843 16	80,000 00	....	....	....	9,664 98	29
....	9,789 19	68,076 14	7,255 60	120,000 00	....	....	....	....	30
....	46	25,725 13	1,721 54	20,000 00	....	....	....	....	31
346 36	2,698 84	36,624 47	7,898 48	275,000 00	....	1,260 00	....	....	32
320 00	129 25	35,351 44	2,869 40	51,000 00	....	....	....	....	33
733 50	1,770 57	20,825 34	12,535 75	50,000 00	....	....	....	....	34
....	1,346 12	84,868 62	575 01	59,250 00	....	18,310 00	23,475 56	....	35
....	38 87	50,716 04	1,899 76	88,895 00	....	....	1,301 00	23,340 32	36
....	30 00	26,608 38	455 94	....	....	....	....	....	37
735 00	702 32	107,165 46	169 50	60,000 00	50,000 00	26,400 00	8,472 63	10,795 09	38
43,891 12	77,291 22	2,486,648 43	298,931 86	2,827,065 33	316,353 00	220,364 95	547,983 19	279,133 20	

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE NO. VII.—Detailed statement of Receipts, Expenditure,

Number.	Counties.	ASSETS.—*Continued*				
		Due from local municipalities.	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	14,969 88	12,308 88	....	1,161 28	90,940 04
2	Kent	31,478 98	....	....	2,728 39	74,876 67
3	Elgin	16,170 76	20,474 77	....	2,200 00	140,121 35
4	Norfolk	4,228 65	....	1,647 44	....	45,876 09
5	Haldimand	6,043 41	520 25	8,108 81	....	53,486 93
6	Welland	7,947 70	156 38	....	....	80,190 28
7	Lambton	....	....	4,952 66	....	34,952 66
8	Huron	51,278 91	....	3,573 63	....	205,152 54
9	Bruce	18,677 14	269 24	4,822 31	3,517 52	149,986 21
10	Grey	18,062 99	653 65	30,593 53	....	317,195 59
11	Simcoe	31,844 40	6,083 11	33,501 38	5,845 00	425,653 89
12	Middlesex	82,135 25	....	481 30	6,711 17	220,327 72
13	Oxford	13,702 33	259 25	40,314 84	1,605 73	504,292 15
14	Brant	....	....	11,112 40	....	91,112 40
15	Perth	33,991 96	2,976 42	....	8,500 00	153,670 38
16	Wellington	50,661 07	11 30	428 24	....	131,100 61
17	Waterloo	5,153 00	....	1,984 71	....	97,137 71
18	Dufferin	5,890 29	455 33	....	172 31	45,959 90
19	Lincoln	11,533 67	1 50	3,208 62	....	108,743 79
20	Wentworth	47,615 75	....	28,248 27	4,505 71	290,369 73
21	Halton	455 93	3,106 48	15,055 00	....	124,477 61
22	Peel	777 86	2,963 96	....	....	56,224 54
23	York	11,397 00	....	....	26,195 00	195,665 00
24	Ontario	11,797 00	....	....	....	66,797 00
25	Durham and Northumberland	....	....	17,790 16	....	71,880 16
26	Prince Edward	9,606 55	327 44	....	....	49,933 99
27	Lennox and Addington	20,074 02	1,035 57	....	....	78,909 59
28	Frontenac	19,077 91	320 42	1,960 47	5,608 14	161,730 94
29	Leeds and Grenville	12,323 00	....	3,843 16	....	105,831 14
30	Dundas, Stormont and Glengarry	21,953 48	4,001 08	3,254 52	7,000 00	156,209 08
31	Prescott and Russell	13,822 94	1,721 54	....	....	35,544 48
32	Carleton	23,599 93	5 64	7,892 84	2,000 00	309,758 41
33	Renfrew	14,437 54	651 41	2,217 99	287 48	68,594 42
34	Lanark	181 18	....	12,535 75	....	62,716 93
35	Victoria	30,406 00	....	575 01	4,468 20	136,484 77
36	Peterborough	20,243 23	....	1,899 76	4,315 77	139,995 08
37	Haliburton	10,026 07	455 94	....	89 50	10,571 51
38	Hastings	42,917 47	169 50	....	....	198,754 69
	Totals	714,483 25	58,929 06	240,002 80	86,911 20	5,291,225 98

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

Assets and Liabilities of the County Municipalities, etc.—*Continued.*

Liabilities.								
School grants unpaid.	Debentures outstanding for—		Coupons on debentures due and unpaid.	Loans for current expenditure and interest due on same.	Due to local municipalities for non-resident taxes collected.	Miscellaneous.	Total.	Number.
	Aid to railways.	All other objects.						
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
...	...	36,263 48	...	...	323 74	7,386 25	43,973 47	1
...	155,067 59	8,482 86	5,220 34	6,257 46	6,707 43	10,619 09	192,354 77	2
...	40,000 00	...	...	17,000 00	7 24	...	57,007 24	3
...	...	...	...	...	206 92	...	206 92	4
...	24,000 00	20,000 00	...	...	...	...	44,000 00	5
...	...	...	...	10,225 64	...	...	10,225 64	6
...	...	2,800 00	...	...	...	...	2,800 00	7
6,050 00	...	282,800 00	...	12,500 00	678 68	...	302,028 68	8
...	93,000 00	20,000 00	...	...	...	830 20	113,830 20	9
...	249,000 00	...	14,940 00	...	3,556 53	...	267,496 53	10
...	176,000 00	52,500 00	...	...	246 72	6,250 00	234,996 72	11
...	...	526,900 00	...	27,000 00	314 03	5,679 50	559,893 53	12
5,680 80	233,400 00	...	7,002 00	90,910 00	223 39	6,716 30	343,932 49	13
...	...	15,300 00	...	...	...	...	15,300 00	14
2,368 00	120,000 00	137,979 67	...	25,500 00	590 91	2,322 00	288,760 58	15
1,804 52	57,900 00	10,000 00	...	26,500 00	993 39	2,475 88	99,673 79	16
4,400 00	47,300 00	20,000 00	...	...	...	...	71,700 00	17
1,195 47	...	36,000 00	...	2,119 98	1,507 74	129 96	40,953 15	18
1,900 00	...	30,600 00	...	8,500 00	65 01	...	41,065 01	19
510 25	...	71,000 00	...	...	...	6,992 03	78,502 28	20
...	100,500 00	...	...	...	211 59	...	100,711 59	21
1,464 00	30,000 00	...	630 00	...	158 66	...	32,252 66	22
521 00	21,800 00	18,410 00	460 00	7,847 31	...	8,363 69	57,402 00	23
...	...	20,000 00	...	516 89	268 87	90 40	20,876 16	24
...	...	...	...	...	...	...	...	25
1,333 00	72,140 00	17,328 85	...	...	...	...	90,801 85	26
589 00	...	148,400 00	...	1,826 30	148 83	37 50	151,001 63	27
2,808,37	170,000 00	62,000 00	1,488 00	...	1,241 31	49,516 98	287,054 66	28
521 00	...	15,000 00	...	...	...	600 00	16,121 00	29
2,770 00	...	25,935 16	...	22,000 00	464 69	1,552 11	52,721 96	30
...	...	3,000 00	...	5,400 00	1,050 83	...	9,450 83	31
...	...	55,000 00	...	...	...	...	55,000 00	32
3,060 00	...	31,933 00	...	2,000 00	1,377 36	326 27	38,696 63	33
...	...	...	...	...	270 59	...	270 59	34
5,015 00	85,000 00	...	...	28,500 00	1,054 74	2,367 14	121,936 88	35
2,805 86	...	32,000 00	660 00	31,340 32	887 46	4,164 88	71,858 52	36
678 00	29,160 00	...	140 56	2,300 00	...	1,041 58	33.320 14	37
...	80,000 00	25,000 00	...	10,333 75	151 88	1,619 38	117,105 01	38
45,474 27	1,784,267 59	1,724,633 02	30,540 90	338,577 65	22,708 54	119,081 14	4,065,283 11	

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE No. VIII.—Detailed statement of Receipts, Expenditure, Assets and Liabilities of

Number.	Counties.	Receipts.					
		Balance from 1885.	Rates from local municipalities.	Non-resident taxes collected.	Interest on bank deposits and dividends from other investments.	Received from Government on account of—	
						Schools.	Administration of Justice.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	11,783 56	29,766 02	18,053 80	....	3,626 00	3,991 04
2	Kent	2,646 11	31,316 87	10,934 84	111 18	3,987 00	3,669 69
3	Elgin	33,185 15	26,069 00	2,423 72	33 97	3,521 00	4,151 36
4	Norfolk	792 96	19,545 29	1,610 67	87 65	3,167 00	1,364 68
5	Haldimand	1,024 80	27,795 97	....	....	2,210 00	2,358 02
6	Welland	1,350 07	21,040 53	407 98	21 75	2,337 00	2,033 75
7	Lambton	700 92	32,934 20	20,820 27	75 00	3,792 00	4,211 51
8	Huron	4,318 45	70,889 46	2,186 85	5,026 29	6,288 00	1,393 46
9	Bruce	9,869 03	79,215 09	5,042 76	722 12	5,467 00	4,069 98
10	Grey	26,849 16	46,293 30	6,236 02	9,705 68	7,051 00	3,101 57
11	Simcoe	19,143 83	78,563 09	7,197 85	896 29	7,212 00	6,077 27
12	Middlesex	6,871 60	86,459 67	3,733 11	1,662 49	6,794 00	5,739 27
13	Oxford	32,448 78	57,936 27	1,104 24	2,968 32	3,889 00	2,413 22
14	Brant	5,882 11	19,154 03	335 34	51 80	2.150 00	4,283 80
15	Perth	2,471 20	51,384 33	761 23	310 29	4,229 00	2,920 04
16	Wellington	5,193 86	65,050 03	1,328 08	168 00	4,579 00	3,963 71
17	Waterloo	12,732 66	37,451 00	51 46	487 85	3,012 00	2,627 60
18	Dufferin	32 85	14,137 91	2,959 23	....	3,117 00	1,072 45
19	Lincoln	5,731 37	22,139 53	607 50	77 41	1,887 00	4,101 20
20	Wentworth	16,799 92	22,113 88	68 72	388 78	3,179 00	5,549 06
21	Halton	20,939 87	35,273 91	107 58	4,114 28	1,875 00	1,351 41
22	Peel	3,239 43	21,399 00	180 28	2 30	2.389 00	1,272 86
23	York	....	36,888 00	....	71 00	5,742 00	19,175 00
24	Ontario	183 24	17,859 40	1,810 05	....	....	7,843 88
25	Durham and Northumberland	12,038 18	21,008 00	466 78	....	6,379 50	3,393 33
26	Prince Edward	....	5,160 96	....	....	2,015 00	1,311 33
27	Lennox and Addington	3,569 63	27,505 76	180 11	398 57	2,903 20	1,045 13
28	Frontenac	5,268 26	28,019 47	1,269 66	310 52	2,693 00	2,070 47
29	Leeds and Grenville	7,256 35	23,737 00	309 64	51 80	5,113 00	2,112 78
30	Dundas, Stormont & Glengarry	9,837 30	16,019 82	423 36	....	6,205 00	1,042 84
31	Prescott and Russell	2,788 39	10,858 27	6,679 16	....	4,501 93	1,245 03
32	Carleton	....	20,577 03	2,105 40	121 50	3,766 00	5,975 83
33	Renfrew	4,640 28	10,310 69	1,380 09	....	6,296 00	2,198 96
34	Lanark	12,433 58	12,368 91	1,875 59	124 80	2,792 00	1,436 25
35	Victoria	435 65	40,144 42	4,479 24	1,986 28	5,259 50	1,606 65
36	Peterborough	1,635 85	19,726 14	2,689 26	40 87	2,618 00	671 31
37	Haliburton	631 50	5,093 42	701 35	....	2,141 80	150 00
38	Hastings	2,177 43	53,948 73	1,595 28	1,895 68	4,371 00	4,074 16
	Totals	286,903 33	1,245,154 40	112,116 50	31,912 47	148,554 93	127,069 90

*Including $1,377.38 received from Government other than for schools, Administration of Justice and Loans;

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

the County Municipalities in the Province of Ontario for the year ending December 31, 1886.

Receipts.—*Continued.*									
Licenses, various.	Fees, rents, tolls, fines, etc.	Towns or cities separated from counties for various services.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures.	Repemption lands sold for taxes.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
235 00	....	....	9,178 30	1,470 00	10,341 92	934 22	7,961 63	97,341 49	1
280 00	2,963 68	1,891 35	383 60	238 23	....	205 99	319 40	58,947 94	2
367 00	1,413 58	4,400 00	....	23,000 00	....	....	148 96	98,713 74	3
243 00	18 40	....	....	10,000 00	....	....	412 25	37,241 90	4
140 00	2,171 37	....	....	....	....	....	4,187 08	39,887 24	5
....	91 29	....	....	18,000 00	....	111 30	6,509 49	51,903 16	6
310 00	2,719 10	....	522 03	2,800 00	....	....	849 34	69,734 37	7
1,130 00	1,774 15	....	7,720 00	....	....	81 02	603 79	101,411 47	8
541 00	2,417 21	....	20,788 00	....	....	715 15	267 00	129,114 34	9
638 40	994 30	....	30,310 00	....	....	....	113 49	131,292 92	10
648 00	3,647 25	....	522 00	28,276 87	....	1,053 22	143 83	153,381 50	11
531 00	111 00	7,215 75	....	10,000 00	....	189 54	2,426 66	131,734 09	12
700 00	1,009 30	....	....	21,682 00	....	481 92	150 03	124,783 08	13
136 00	280 41	2,850 00	....	4,000 00	....	....	66 50	39,189 99	14
369 00	183 00	21,133 30	....	4,000 00	33,171 31	....	2,247 54	123,180 24	15
463 00	181 27	3,015 05	....	30,000 00	....	364 42	368 70	114,675 12	16
380 00	66 50	....	....	12,000 00	....	....	235 29	69,044 36	17
104 00	173 01	....	....	13,155 75	....	1,054 96	....	35,807 16	18
110 00	210 04	4,342 45	....	20,500 00	....	....	212 21	59,918 71	19
148 00	9,179 73	16,624 71	....	....	....	....	12 00	74,063 80	20
230 00	400 00	....	1,200 00	3,000 00	....	413 22	42 07	68,947 34	21
220 65	74 50	....	....	12,000 00	....	....	....	40,778 02	22
784 00	2,750 00	15,462 00	2,350 00	....	20,000 00	....	1,781 19	105,003 19	23
653 00	83 53	....	....	20,916 22	....	27 77	3,305 27	52,682 36	24
821 00	753 01	2,278 00	2,090 00	....	....	....	102 25	49,330 05	25
100 00	88 50	....	....	32,000 00	....	....	99 92	40,775 71	26
292 00	33 37	....	3,500 00	700 85	20,000 00	....	3 00	60,131 62	27
97 00	3,236 25	4,000 00	....	....	18,000 00	....	2,301 18	67,265 81	28
835 00	2,049 85	1,650 00	....	....	....	....	21,448 53	64,563 95	29
939 00	707 00	....	....	6,903 50	10,700 44	....	33 00	52,811 26	30
297 50	....	....	....	4,300 00	....	65 65	....	30,735 93	31
204 00	....	24,510 00	200 00	....	....	389 60	212 67	58,062 03	32
200 00	1,260 86	....	....	6,500 00	15,978 00	203 49	....	48,968 37	33
445 00	77 47	625 00	....	....	....	113 91	....	32,292 51	34
394 00	212 39	400 00	1,670 66	71,600 00	....	837 97	350 16	129,376 92	35
206 90	221 03	1,592 00	3,050 00	8,385 31	....	230 21	1,345 98	42,412 86	36
79 00	63 00	....	....	17,648 40	....	20 64	11 02	26,540 13	37
320 00	1,013 25	3,000 00	560 00	17,567 91	....	1,105 16	846 25	92,474 85	38
14,591 45	42,628 60	114,989 61	84,044 59	400,645 04	128,191 67	8,599 36	*59,117 68	2,804,519 53	

lso, $25,036.42 taken from sinking fund, Haldimand $4,187.08, Lambton $849.34, and Leeds and Gren. $20,000

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE NO. VIII.—Detailed statement of Receipts, Expenditure,

Number.	Counties.	Expenditure.				
		Grants to High, Public and Separate schools.	Other payments on account of schools and education.	Non-resident taxes paid local municipalities.	Roads and bridges.	Buildings and other property.
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	4,376 00	1,720 51	17,227 94	9,459 75	....
2	Kent	8,236 28	1,436 44	10,134 50	2,286 72	2,697 61
3	Elgin	12,358 00	431 48	1,442 47	4,221 05	3,544 86
4	Norfolk	9,378 35	1,695 45	1,932 06	....	....
5	Haldimand	7,974 74	....	....	3,307 30	....
6	Welland	4,101 72	1,127 91	407 98	2,876 39	1,021 04
7	Lambton	5,721 43	2,439 71	20,820 27	10,678 42	....
8	Huron	14,659 57	2,384 83	2,387 29	17,921 57	208 48
9	Bruce	15,482 20	2,386 44	4,718 34	13,472 74	....
10	Grey	8,670 40	2,258 47	6,079 48	....	5,742 45
11	Simcoe	11,309 01	2,761 39	6,909 53	6,388 15	....
12	Middlesex	15,979 11	2,208 68	4,064 95	22,919 11	....
13	Oxford	9,519 31	511 00	971 29	5,211 92	771 45
14	Brant	5,750 00	347 58	335 34	108 39	2,702 25
15	Perth	9,722 11	1,358 30	687 37	13,244 69	29,027 36
16	Wellington	7,015 15	1,833 34	1,751 89	12,037 91	2,517 59
17	Waterloo	12,507 30	246 60	31 40	2,414 76	1,040 24
18	Dufferin	6,869 13	1,062 65	3,609 91	217 95	463 68
19	Lincoln	7,187 00	492 63	446 44	5,149 52	12,082 70
20	Wentworth	4,340 77	1,476 46	107 00	4,260 50	....
21	Halton	5,475 00	1,107 73	703 08	485 00	....
22	Peel	3,866 00	1,528 00	130 00	2,216 57	54 20
23	York	14,288 00	2,397 00	....	1,574 00	3,257 00
24	Ontario	12,123 80	1,965 47	1,988 64	1,475 96	1,266 00
25	Durham and Northumberland	9,156 12	999 84	466 78	670 58	638 20
26	Prince Edward	3,414 77	....	....	302 12	1,550 77
27	Lennox and Addington	5,358 37	431 48	244 43	8,302 80	....
28	Frontenac	6,731 75	672 28	1,475 71	2,985 86	233 41
29	Leeds and Grenville	10,146 15	4,428 05	380 81	2,135 60	....
30	Dundas, Stormont and Glengarry	11,520 66	341 55	423 36	9,583 28	5,907 27
31	Prescott and Russell	5,749 21	1,293 43	5,850 75	3,467 73	289 85
32	Carleton	3,766 00	1,220 99	2,105 40	15,785 16	....
33	Renfrew	8,344 05	1,872 49	1,702 09	862 06	1,073 66
34	Lanark	4,377 18	431 66	1,490 85	320 50	....
35	Victoria	12,488 90	2,211 89	4,108 49	7,961 06	311 70
36	Peterborough	5,096 29	809 50	2,361 08	3,182 46	1,365 73
37	Haliburton	2,766 80	328 70	701 35	....	330 92
38	Hastings	5,731 00	1,866 95	1,230 00	27,615 91	....
	Totals	311,557 63	52,086 88	109,428 27	225,103 49	78,098 42

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

Assets and Liabilities of the County Municipalities, etc.—*Continued.*

EXPENDITURE.—*Continued.*

Expenses of municipal government.									
Attendance and mileage at meetings of council and committees.	Allowances, salaries and commissions.	Law costs.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Other expenses of municipal government.	Administration of Justice (including gaol maintenance, juries and inquests.)	Debentures redeemed.	Refund of money borrowed for current expenditure.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1,265 10	2,125 00	....	432 78	865 71	3,528 89	12,223 81	22,154 00	....	1
1,847 60	2,150 00	232 00	260 89	1,011 06	....	8,778 06	15,951 39	....	2
866 90	3,385 00	....	418 19	807 40	....	15,242 96	10,000 00	35,000 00	3
607 60	3,669 13	....	424 64	201 06	....	3,728 83	....	10,000 00	4
1,144 70	1,530 00	....	180 00	594 25	....	7,203 77	4,000 00	....	5
....	2,999 57	....	309 43	....	1,668 61	9,931 25	....	14,000 00	6
1,533 70	1,917 00	....	806 41	756 20	997 28	13,357 62	....	2,800 00	7
1,978 85	2,328 20	30 00	895 58	400 00	179 92	8,748 24	....	20,000 00	8
2,327 40	2,696 40	....	455 27	....	3,267 76	10,520 60	7,383 51	6,480 00	9
2,479 00	2,250 00	....	366 53	567 95	151 95	13,227 49	....	....	10
3,868 80	3,145 00	1,163 02	1,624 31	666 95	....	18,712 90	18,950 00	17,276 87	11
2,258 30	4,015 50	477 03	538 30	673 66	223 30	25,730 67	7,000 00	....	12
1,630 67	2,875 29	59 00	710 76	749 15	160 90	9,790 82	3,600 00	3,554 10	13
676 90	1,350 00	....	344 65	982 72	259 00	9,728 36	....	4,000 00	14
1,595 10	2,629 58	702 33	525 20	301 70	29 18	9,444 23	27,711 72	16,500 00	15
1,416 60	2,180 00	322 69	216 90	904 04	....	11,548 23	16,400 00	30,000 00	16
1,169 60	3,547 60	....	798 77	732 14	150 97	5,720 58	9,600 00	12,000 00	17
478 70	880 00	....	226 31	181 75	....	5,992 55	1,200 00	10,920 53	18
1,198 40	2,824 49	2,820 25	451 44	1,946 28	....	10,344 10	1,105 00	7,000 00	19
1,829 00	2,850 00	662 94	494 50	344 14	....	19,430 14	4,000 00	....	20
267 80	1,149 60	....	228 13	328 10	985 36	5,681 92	4,700 00	3,000 00	21
569 50	2,487 90	17 45	593 48	458 80	....	4,652 47	5,000 00	12,000 00	22
3,231 00	5,213 00	214 00	1,489 00	2,316 00	....	33,216 00	2,350 00	23,012 00	23
1,214 45	4,340 90	....	805 81	602 50	....	8,431 24	....	16,000 00	24
2,793 20	4,873 75	....	482 63	2,038 25	....	12,094 01	....	....	25
....	2,160 60	....	525 60	600 01	1,320 41	3,247 27	5,342 66	13,028 50	26
1,590 00	3,231 45	....	1.054 33	743 57	....	4,143 73	22,500 00	....	27
1,032 00	2,656 10	....	798 10	1,049 17	....	9,710 86	22,000 00	....	23
1,833 00	2,576 53	8 00	470 50	2,415 42	....	5,595 48	20,000 00	....	29
1,653 10	1,000 20	782 20	789 37	450 00	2,126 37	7,112 46	2,913 21	4,000 00	30
744 80	867 81	....	222 50	297 55	....	5,667 51	1,000 00	1,700 00	31
2,207 25	2,745 33	600 58	742 87	2,005 00	....	15,231 52	....	1,763 07	32
1,481 30	2,758 75	....	520 95	819 48	....	6,614 53	648 00	13,000 00	33
1,076 20	2,425 00	....	476 65	684 28	....	6,402 21	....	....	34
1,218 85	1,880 00	....	1,160 82	650 89	....	8,477 50	....	75,000 00	35
1,037 60	1,729 00	672 33	653 07	747 92	....	7,290 04	....	7,500 00	36
223 75	460 00	....	168 24	118 63	....	736 00	2,688 00	15,000 00	37
2,221 70	3,065 00	....	1,059 30	1,214 50	7 50	12,877 74	....	17,470 66	38
54,568 42	96,968 68	8,763 82	22,722 21	30,226 23	14,967 40	386,587 70	238,197 49	392,005 73	

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE No. VIII.—Detailed statement of Receipts, Expenditure,

Number.	Counties.	EXPENDITURE—*Continued.*					
		Interest on loans and advances.	Sinking fund investments.				Redemption money paid land sold for taxes.
			Mortgages.	Debentures of other municipalities.	Debentures of the municipality.	Loans and deposits.	
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex					9,016 74	973 49
2	Kent	633 90					363 76
3	Elgin	3,981 75					
4	Norfolk	158 71					
5	Haldimand	3,300 31				1,000 00	
6	Welland	947 17					111 30
7	Lambton	407 21					
8	Huron	17,141 50	8,800 00				85 84
9	Bruce					50,000 00	316 47
10	Grey	14,880 00		40,000 00			
11	Simcoe	16,992 35					911 06
12	Middlesex	32,035 30					65 95
13	Oxford	14,551 00	6,800 00			18,182 00	443 41
14	Brant	41 65					
15	Perth	220 75					
16	Wellington	6,492 19					433 63
17	Waterloo	5,656 85					
18	Dufferin	2.497 38					569 41
19	Lincoln	170 13					
20	Wentworth	4,950 00					
21	Halton	8,554 72	2,500 00	1,500 00		17,994 55	413 24
22	Peel	2,910 70					
23	York	1,891 00					
24	Ontario	848 56					67 29
25	Durham and Northumberland						
26	Prince Edward	825 11					
27	Lennox and Addington	8,883 75				2,800 00	
28	Frontenac	11,787 00					
29	Leeds and Grenville	3,100 00					
30	Dundas, Stormont and Glengarry	720 00					
31	Prescott and Russell	475 00					49 80
32	Carleton	3,430 11					389 60
33	Renfrew	1,763 91					244 11
34	Lanark						113 91
35	Victoria	6,441 25	5,312 60				756 44
36	Peterborough	2,047 36		201 09		4,385 31	290 33
37	Haliburton	2,278 69					
38	Hastings	7,323 21	2,000 00	750 00		4,635 95	896 33
	Totals	188,338 43	25,412 60	42,451 00		108,014 55	7,495 37

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES

Assets and Liabilities of the County Municipalities, etc.—*Continued.*

Expenditure.—*Continued.*			Balance December 31, 1886.	Assets.					Number.
Support of the poor and other charities.	Miscellaneous.	Total.		Land buildings furniture, etc.	Stock in public works.	Mortgages.	Debentures.	Other investments, including special deposits.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
....	2,979 00	88,348 72	8,992 77	62,500 00	....	....	....	....	1
....	2,927 73	58,947 94	....	46,402 35	....	....	....	....	2
4,414 82	1,312 51	97,427 39	1,286 35	100,975 83	....	....	....	....	3
2,685 32	2,698 99	37,180 14	61 76	30,000 00	....	....	....	....	4
69 00	2,712 32	33,016 39	6,870 85	25,000 00	....	....	....	12,339 79	5
3,255 37	2,700 16	45,457 90	6,445 26	72,146 50	....	....	....	....	6
290 29	377 56	62,813 10	6,921 27	30,000 00	....	....	....	....	7
435 22	910 88	99,495 97	1,915 50	50,000 00	....	52,350 00	19,500 00	....	8
480 00	28 50	120,015 63	9,098 71	54,300 00	....	....	....	41,368 64	9
....	834 28	97,508 00	33,784 92	70,242 42	....	....	182,100 00	....	10
....	3,618 07	114,297 41	39,084 09	150,000 00	182,580 00	....	17,400 00	....	11
8,256 94	2,677 26	129,124 06	2,610 03	108,000 00	....	....	....	23,000 00	12
10 00	2,088 37	82,190 44	42,592 64	50,000 00	....	61,200 00	237,000 00	72,728 00	13
746 25	2,678 73	30,051 82	9,138 17	100,000 00	....	....	....	....	14
....	602 00	114,301 62	8,878 62	57,050 00	....	....	....	....	15
8,115 91	7,478 54	110,664 61	4,010 51	75,000 00	....	....	....	....	16
4,440 10	2,141 10	62,198 01	6,846 35	70,000 00	....	....	6,000 00	13,000 00	17
....	383 55	35,553 50	253 66	37,618 87	....	....	....	....	18
2,164 45	....	55,382 83	4,535 88	94,000 00	....	....	....	....	19
300 00	2,741 48	47,786 93	26,276 87	210,000 00	....	....	....	....	20
....	....	55,074 23	13,873 11	40,000 00	....	21,816 37	17,906 25	17,994 55	21
....	2,367 83	38,852 90	1,925 12	51,485 99	....	....	....	....	22
7,447 00	2,860 00	104,755 00	248 19	74,500 00	61,872 00	....	24,300 00	....	23
....	1,551 74	52,682 36	....	50,000 00	....	....	....	....	24
....	315 00	34,528 36	14,801 69	52,000 00	....	....	4,180 00	....	25
....	5,058 60	37,376 42	3,399 29	40,000 00	....	....	....	....	26
100 00	700 15	60,084 06	47 56	55,000 00	....	....	....	2,800 00	27
....	1,861 36	62,993 60	4,272 21	110,000 00	22,000 00	....	....	3,007 25	28
....	3,730 46	56,820 00	7,743 95	80,000 00	....	....	....	5,198 67	29
....	717 98	50,041 01	2,770 25	120,000 00	....	....	....	....	30
....	132 75	27,808 69	2,927 24	20,000 00	....	....	....	....	31
1,215 00	1,380 84	54,588 72	3,473 31	275,000 00	....	1,300 00	....	....	32
100 00	212 65	42,018 03	6,950 34	51,000 00	....	....	....	....	33
750 00	1,741 17	20,289 61	12,002 90	50.000 00	....	....	....	....	34
150 00	1,049 64	129,180 03	196 89	59,250 00	....	10,960 00	25,037 60	....	35
....	1,374 73	40,743 75	1,669 11	88,895 00	....	....	251 00	22,821 28	36
....	84 00	25,884 99	655 14	....	....	....	....	....	37
900 00	1,598 14	92,463 89	10 96	60,000 00	50,000 00	6,600 00	9,691 00	23,506 61	38
46,325 67	68,628 07	2,507,948 06	296.571 47	2,770,366 96	316,452 00	154,226 37	543,365 85	237,764 79	

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE No. VIII.—Detailed statement of Receipts, Expenditure,

Number.	Counties.	Assets.—*Continued.*				
		Due from local municipalities.	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	14,334 08	8,992 77		2,031 12	87,857 97
2	Kent	26,354 71			1,097 71	73,854 77
3	Elgin	26,700 00	1,286 35			128,962 18
4	Norfolk	6,077 86		61 76		36,139 62
5	Haldimand	829 83	3,331 78	3,539 07		45,040 47
6	Welland	4,862 58	194 12	6,251 14	2,118 00	85,572 34
7	Lambton	2,075 36		6,921 27	1,200 00	40,196 63
8	Huron	55,205 50		1,915 50		178,971 00
9	Bruce	18,507 16		9,098 71	128 24	123,402 75
10	Grey	17,082 44	688 22	33,096 70		303,209 78
11	Simcoe	34,887 50		39,084 09	7,278 55	431,230 14
12	Middlesex	82,282 78	2,610 03		5,840 75	221,733 56
13	Oxford	5,640 00		42,592 64	1,701 62	470,862 26
14	Brant			9,138 17		109,138 17
15	Perth	36,254 01	8,878 62			102,182 63
16	Wellington	41,803 88	11 29	3,999 22	9,371 92	130,186 31
17	Waterloo	2,485 00		6,846 35		98,331 35
18	Dufferin	15,664 50	253 66		103 75	53,640 78
19	Lincoln	7,223 21		4,535 88	5 90	105,764 99
20	Wentworth	50,590 83		26,276 87	2,250 00	289,117 70
21	Halton	854 45	1,998 95	11,874 16		112,444 73
22	Peel			1,925 12		53,411 11
23	York	9,653 00		248 19	22,643 00	193,216 19
24	Ontario	9,869 10				59,869 10
25	Durham and Northumberland		14,801 69			70,981 69
26	Prince Edward	18,492 89		3,399 29		61,892 18
27	Lennox and Addington	22,588 84	47 56			80,436 40
28	Frontenac	18,613 22	544 45	3,727 76	5,762 53	163,655 21
29	Leeds and Grenville	13,344 00	7,743 95			106,286 62
30	Dundas, Stormont and Glengarry		752 50	2,017 75		122,770 25
31	Prescott and Russell	12,023 72	2,927 24			34,950 96
32	Carleton	23,648 48		3,473 31	3,348 00	306,769 79
33	Renfrew	13,036 18		6,950 34	2 50	70,989 02
34	Lanark	572 46		12,002 90		62,575 36
35	Victoria	32,429 23		196 89	4,561 93	132,435 65
36	Peterborough	16,514 54		1,669 11	2,009 68	132,160 61
37	Haliburton	10,815 07	200 77	454 37	37 50	11,507 71
38	Hastings	49,045 40	10 96			198,853 97
	Totals	700,361 81	55,274 91	241,296 56	71,492 70	5,090,601 95

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

Assets and Liabilities of the County Municipalities, etc.—*Continued.*

LIABILITIES.								
School grants unpaid.	Debentures outstanding for—		Coupons on debentures due and unpaid.	Loans for current expenditure and interest due on same.	Due to local municipalities for non-resident taxes collected.	Miscellaneous.	Total.	Number.
	Aid to railways.	All other objects.						
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
....	....	39,334 48	....	1,470 00	825 86	3,746 02	45,376 36	1
....	104,854 84	7,000 00	....	238 23	10.934 84	11,405 33	134,433 24	2
....	50,000 00	....	....	10,000 00	989 04	....	60,989 04	3
....	....	....	....	....	176 66	....	176 66	4
....	28,000 00	20,000 00	....	....	....	....	48,000 00	5
....	....	....	....	18,000 00	....	....	18,000 00	6
....	....	4,200 00	....	....	....	....	4,200 00	7
5,982 00	....	282,799 64	....	....	461 98	....	289,243 62	8
315 00	93,000 00	20,000 00	....	....	1,961 28	850 32	116,126 60	9
....	249,000 00	....	14,940 00	....	4,224 06	....	268,164 06	10
....	192,000 00	56,200 00	....	11,000 00	288 32	4,313 32	263,801 64	11
....	....	526,900 00	5,000 00	33,000 00	286 77	8,789 39	573,976 16	12
4,720 58	240,100 00	....	7,834 94	72,728 00	918 10	5,383 90	331,685 52	13
....	....	....	....	....	....	....	....	14
2,715 00	120,000 00	141,873 00	....	....	296 47	2,538 00	267,422 47	15
2,350 25	65,700 00	20,000 00	....	25,000 00	691 35	3,347 00	117,088 60	16
4,400 00	54,700 00	20,000 00	....	....	....	....	79,100 00	17
1,056 30	....	37,300 00	....	8,655 75	1,602 26	....	48,614 31	18
1,600 00	....	15,300 00	....	13,500 00	312 48	....	30,712 48	19
450 00	....	75,000 00	....	....	....	7,564 00	83,014 00	20
....	105,300 00	....	....	....	153 42	....	105,453 42	21
....	35,500 00	....	....	....	68 19	....	35,568 19	22
528 00	24,300 00	20,000 00	....	....	....	7,934 00	52,762 00	23
....	....	20,000 00	....	4,916 22	293 69	....	25,209 91	24
....	....	....	....	30,000 00	....	....	105,923 00	25
2,283 00	73,640 00	....	....	....	....	....	....	26
2,405 00	....	151,100 00	....	700 85	109 98	18 75	154,334 58	27
2,824 40	170,000 00	62,000 00	3,153 00	....	974 87	49,415 77	288,368 04	28
4,500 00	....	15,000 00	....	....	....	1,000 00	20,500 00	29
....	....	25,994 99	....	3,000 00	....	....	28,994 99	30
....	....	4,000 00	....	5,100 00	2,314 88	1,000 00	12,414 88	31
....	....	55,000 00	....	....	....	....	55,000 00	32
536 00	....	34,427 30	....	3,000 00	1 27	1,787 57	39,752 14	33
....	....	....	....	....	384 74	....	384 74	34
4,850 00	85,000 00	....	....	35,600 00	1,129 52	1,848 46	128,427 98	35
1,296 56	....	32,000 00	960 00	27,321 28	578 80	4,049 37	66,206 01	36
676 00	32,008 00	....	274 54	4,000 00	....	923 64	37,882 18	37
....	80,000 00	25,000 00	....	17,567 91	365 28	1,828 21	124,761 40	38
43,488 09	1,803,102 84	1,710,429 41	32,162 48	324,798 24	30,344 11	117,743 05	4,062,068 22	

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE No. IX.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Town-

Number.	Counties.	Receipts.						
		Balance from 1886.	Taxes, municipal and school.		Licenses, various.	Interest on bank deposits and dividends, from other investments.	Received from Government on account of—	
			Per collector.	Non-resident taxes.			†Schools.	Other purposes (except loans).
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	18,193 52	164,849 58	4,716 13	1,249 74	514 37	3,396 00	8,428 49
2	Kent	19,966 36	193,670 29	10,602 80	....	816 57	3,274 00	....
3	Elgin	18,626 49	139,444 29	2.191 25	10 00	47 46	2,668 00	....
4	Norfolk	4,545 15	77,541 69	1,327 33	....	573 70	1,686 00	....
5	Haldimand	7,294 45	76,115 91	248 24	841 11	765 36	1,388 75	17 37
6	Welland	7,060 71	63,109 50	305 04	1,663 31	2,302 45	2,002 00	154 37
7	Lambton	16,819 37	169,999 78	21,704 84	72 50	22 31	2,016 00	....
8	Huron	24,576 26	198,702 06	1,744 85	....	4,695 12	4,454 00	968 98
9	Bruce	30,969 79	172,881 03	3,012 33	....	4,561 56	3,639 00	1,807 96
10	Grey	20,929 97	187,130 78	8,864 89	2,050 34	4,308 84	5,316 00	2.027 20
11	Simcoe	16,588 35	194,895 55	8,269 44	....	1,096 93	6,056 00	9 28
12	Middlesex	33.207 13	244,995 66	3,572 55	61 02	1,021 07	5,347 00	95 31
13	Oxford	19,844 55	142,374 48	656 43	....	3,186 07	1,893 00	8 30
14	Brant	1,177 69	61,489 60	17 71	77 00	4,672 43	....	209 37
15	Perth	6,339 98	156,098 73	1,812 81	1,876 86	539 95	3,553 00	63 19
16	Wellington	15,233 55	151,160 96	2,420 74	288 80	2,664 78	4,657 00	292 87
17	Waterloo	12,334 60	94,380 94	24 92	1,809 51	3,740 15	....	....
18	Dufferin	9,321 19	87,194 36	1,594 88	....	1,146 40	....	65 98
19	Lincoln	4,221 39	57,923 58	294 64	....	8 00	814 00	34 75
20	Wentworth	15,380 09	72,104 22	63 38	1,846 19	4,709 57	3,211 00	....
21	Halton	2,448 64	61,417 90	92 18	10 00	2,354 49	1,841 00	....
22	Peel	2,239 61	70,990 47	5 45	1,552 04	4,193 02	949 00	....
23	York	17,963 12	162,349 29	702 42	4,535 18	11,018 00	2,850 00	45 00
24	Ontario	8,091 53	115,156 82	1,727 81	199 00	3,233 33	2,010 00	....
25	Durham	8,528 41	67,893 43	128 06	11 75	1,675 85	2,267 00	60 45
26	Northumberland	6,807 91	85 808 60	266 34	2 63	52 00	1,941 00	....
27	Prince Edward	6,244 87	49,904 28	....	413 62	1,051 06	....	9 08
28	Lennox and Addington	4,541 58	67,239 64	....	....	2,888 82	2,242 00	859 14
29	Frontenac	2,723 09	68,786 46	1,638 69	....	956 50	1,794 00	230 28
30	Leeds and Grenville	14,366 65	105,300 86	117 46	98 00	2,837 16	3,416 00	....
31	Dundas	670 47	38,212 25	28 93	....	....	1,617 00	10 09
32	Stormont	689 55	38,837 34	273 44	....	....	1,488 00	....
33	Glengarry	2,773 20	46,601 55	4 45	....	705 97	1,688 00	....
34	Prescott	2,277 38	29,338 76	921 65	1,097 18	....	1,106 00	6 48
35	Russell	3,119 86	27,475 59	3,283 96	683 78	....	1,551 00	....
36	Carleton	4,437 52	87,236 30	1,149 50	86 00	701 43	1,411 00	17 50
37	Renfrew	7,663 31	49,269 63	1,426 09	....	161 23	3,001 86	316 40
38	Lanark	5,570 48	56,838 18	1,780 00	102 33	853 60	3,072 20	25 33
39	Victoria	5,895 04	90,257 71	2,003 53	43 66	1,347 93	2,270 00	3 63
40	Peterborough	4,616 56	63,119 46	1,562 23	....	....	622 00	233 18
41	Haliburton	1,959 45	19,259 22	1,403 84	157 73	....	219 00	345 61
42	Hastings	4,816 47	133,005 69	2,713 14	1,745 07	103 24	4,322 00	155 81
43	Muskoka	4,663 09	24,197 77	779 46	20 74	....	1,438 00	799 56
44	Parry Sound	1,587 27	12,300 55	196 68	494 59	66 57	214 62	302 71
45	Algoma	3,792 07	38,020 48	2,317 64	3,550 62	....	233 30	....
46	Nipissing	265 17	2,374 68	....	608 21	....	72 78	23 48
	Totals	*431,382 89	4,317,255 90	97,968 15	27,258 51	75,593 29	99,007 51	17,627 15

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*This balance is less by $2,413.04 than the amount on hand December 31, 1886, as shown in Table x.
meath and Somerville which were not reported in 1887, while a balance of

† This column is incomplete, as a large number of treasurers have not considered the item

NOTE.—For township, town and village municipalities

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

ship Municipalities in the Province of Ontario, grouped by counties, for the year ending December 31, 1887.

RECEIPTS.—*Continued.*

Fees, rents, tolls, fines, etc.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures for—			Taken from sinking fund.	Miscellaneous.	Total.	Number.
			Tile drainage.	Municipal drainage.	Other purposes.				
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
112 70	2,268 40	21,386 19	500 00	27.807 52	14,687 00	....	11,910 30	280,019 94	1
239 99	237 39	26,370 21	1,349 44	116,193 00	9,706 35	....	4,162 55	386,588 95	2
2,333 40	....	32,899 96	6,800 00	11,744 87	4,000 00	....	2,167 99	222,933 71	3
17 25	1,299 00	11,298 00	....	366 95	848 00	....	2,767 54	102,270 61	4
44 36	....	4,098 42	....	1,050 00	....	....	1,197 23	93,061 20	5
222 68	3,200 51	5,750 00	....	260 00	....	....	1,911 63	87,942 20	6
142 15	....	35,060 19	2,100 00	20,679 87	....	....	8,999 90	277,616 91	7
124 90	7,977 13	16,086 00	....	....	8,824 50	....	5,684 10	273,837 90	8
52 50	7,421 25	8,818 04	....	....	1,300 00	....	8,280 46	242,743 92	9
165 95	11,994 05	7,146 59	....	....	4,800 00	948 78	3,148 50	258,831 89	10
21 25	466 00	9,051 99	....	448 90	....	....	6,163 82	243,067 51	11
173 30	107 27	15,331 96	1,400 00	8,265 39	2,763 14	....	5,282 65	321,623 45	12
79 96	6,990 26	12,395 42	....	3,729 30	3,020 75	....	6,667 86	200,846 38	13
227 44	9,103 24	6,127 06	....	....	....	....	648 56	83,750 10	14
327 00	2,541 50	11,749 26	....	....	....	6,500 00	8,744 29	200,146 57	15
80 25	4,782 86	16,011 02	....	970 00	1,215 65	443 00	3,827 84	204,049 32	16
76 00	13,930 00	1,391 27	....	....	6,611 00	....	989 99	135,288 38	17
11 00	....	8,493 75	....	5,009 14	....	....	309 91	113,146 61	18
45 17	....	3,618 47	....	....	....	....	728 55	67,688 55	19
5,060 01	5,926 83	1,000 00	....	800 00	....	800 00	1,400 33	112,301 62	20
6 00	6,608 95	1,525 53	....	....	....	....	2,814 39	79,119 08	21
54 00	8,375 45	9,320 30	....	....	....	185 60	350 19	98,215 13	22
153 07	16,399 71	5,236 64	....	....	4,543 76	....	2,883 45	228,679 64	23
233 05	5,400 00	28,301 86	....	1,640 00	....	....	5,877 83	171,871 23	24
110 95	....	556 35	....	....	1,300 00	....	576 39	83,108 64	25
1,553 50	....	9,366 18	....	....	620 00	....	971 17	107,389 33	26
27 00	393 44	7,710 42	....	....	....	....	1,550 75	67,304 52	27
36 12	9,875 00	6,438 93	....	631 35	....	....	9,894 99	104,647 57	28
461 24	4,100 00	3,734 36	....	....	....	....	2,401 83	86,826 45	29
2,197 95	....	6,042 88	....	5,000 00	....	....	3,028 23	142,405 19	30
752 21	....	5,095 21	....	....	....	....	581 10	46,967 26	31
35 50	....	3,600 00	....	....	....	....	78 84	45,002 67	32
102 65	....	33 26	....	....	800 00	....	381 80	53,090 88	33
52 75	....	1,014 43	....	....	....	....	637 09	36,451 72	34
76 70	....	3,129 06	....	....	2,500 00	....	81 27	41,901 22	35
748 87	....	4,729 17	....	....	3,116 00	....	532 20	104,165 49	36
152 56	401 00	646 48	....	....	....	....	1,283 06	64,321 62	37
65 83	68 03	536 44	....	....	....	....	403 33	69,315 75	38
120 35	659 66	1,815 26	....	....	....	739 59	2,715 77	107,872 13	39
43 25	....	4,034 65	....	....	....	....	691 37	74,922 70	40
36 00	200 00	2,526 52	....	....	....	....	946 33	27,053 70	41
695 85	263 19	420 05	....	....	....	....	6,057 34	154,297 85	42
35 20	....	1,269 47	....	....	100 00	200 00	806 95	34,310 24	43
211 60	20 00	1,486 45	....	....	....	2,000 00	245 90	19,126 94	44
282 40	....	3,070 00	....	....	4,800 00	....	3,386 71	59,453 22	45
182 44	75 00	....	....	....	....	....	2 93	3,604 69	46
17,984 30	131,085 12	365,723 70	12,149 44	204,596 29	75,556 15	11,816 97	134,175 21	6,019,180 58	

The latter included balances aggregating $2,462.55 in the townships of Mountain, Plantagenet N., West-
$19.51 is carried forward in 1887 in Cockburn Island, which did not report in 1886.

as a municipal account, they only acting as sub-treasurers to the county treasurers.

comprising counties, see Table III.

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE No. IX.—Summary statement of Receipts, Expenditure,

Number.	Counties.	Expenditure.						
		Taxes paid to the county treasurer.	School boards on account of school rates.	Other payments on account of schools and education.	Roads, bridges, streets and parks.	Buildings and other property.	Drainage works and expenses of—	
							Tile drainage.	Other drainage works.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	17,532 72	51,547 26	5,496 34	21,802 86	....	500 00	42,471 02
2	Kent	32,691 90	54,790 90	10,096 20	17,676 40	2,724 78	2,437 16	117,395 65
3	Elgin	50,860 00	45,370 36	8,641 08	31,400 15	....	7,013 53	9,384 55
4	Norfolk	16,138 02	34,663 81	4.536 96	16,182 27	....	....	836 45
5	Haldimand	24,095 27	27,557 31	3,995 60	12,789 16	....	11 05	1,813 09
6	Welland	22,056 35	25,216 97	5,963 95	4,932 11	....	....	3,648 72
7	Lambton	21,812 27	57,744 73	4,036 68	37,485 51	....	2,727 90	26,568 02
8	Huron	51,024 82	77,820 75	9,288 31	40,787 76	....	....	1,057 62
9	Bruce	57,998 43	62,828 45	6,939 10	33,951 24	....	....	132 85
10	Grey	42,057 86	75,397 22	14,871 00	28,584 88	357 45	....	193 54
11	Simcoe	57,239 02	87,831 98	11,475 45	21,220 49	....	....	478 16
12	Middlesex	73,431 93	76,581 96	13,484 28	61,622 26	75 00	1,441 65	15,698 32
13	Oxford	45,001 89	50.562 06	7,117 12	26,683 97	....	288 51	11,082 28
14	Brant	12,242 41	23,186 35	5,927 43	12,902 87	113 42	....	1,044 97
15	Perth	48,003 45	50,447 89	6,312 15	29,815 75	....	....	3,426 88
16	Wellington	46,200 18	57,244 87	11,911 16	21,300 87	479 43	12 00	3,369 96
17	Waterloo	29,793 00	41,516 90	10,245 63	17,131 10	....	....	37 00
18	Dufferin	22,185 70	31,865 35	1,788 00	11,848 78	....	....	4,446 23
19	Lincoln	18,981 15	22,284 67	1,861 30	8,160 51	....	....	345 35
20	Wentworth	15,056 36	30,926 57	14,272 90	13,443 72	12 22	....	1,649 52
21	Halton	23,864 25	21,433 43	6,874 15	9,835 49	11 00	....	....
22	Peel	22,624 88	25,909 91	4,415 35	9,383 28	....	....	....
23	York	37,439 49	66,251 35	18,731 52	35,607 53	62 30	....	....
24	Ontario	21,826 80	49,993 60	4,118 76	24,430 24	70 31	....	3,054 65
25	Durham	9,574 00	34,146 68	6,657 00	10,237 91	104 00	....	....
26	Northumberland	9,822 00	40,951 84	5,619 26	13,355 29	139 73	....	....
27	Prince Edward	20,307 50	23,366 56	995 66	1,726 83	58 49	....	....
28	Lennox and Addington	30,808 91	24,462 05	5,974 16	9,662 23	110 00	....	1,073 58
29	Frontenac	26,650 00	31,816 17	3,219 60	7,431 58	360 00	....	585 18
30	Leeds and Grenville	17,730 00	55,809 96	8,539 18	17,795 61	31 17	....	5,413 83
31	Dundas	2,279 85	19,510 02	2,696 33	12.532 50	....	....	612 91
32	Stormont	4,550 27	20,798 69	2,983 00	6,334 57	45 14	....	891 30
33	Glengarry	4,442 89	20,253 47	3,367 00	7,858 63	....	....	42 50
34	Prescott	6,659 22	15,863 50	2,261 64	3,848 11	....	....	195 88
35	Russell	4,037 24	15,073 15	2,661 00	8,479 57	....	....	....
36	Carleton	19,290 90	44,868 40	7,311 85	10,845 75	330 37	....	1,217 57
37	Renfrew	8,494 48	26,741 84	4,468 76	6,913 89	....	....	30 00
38	Lanark	9,959 73	33,500 51	4,826 96	6,695 05	....	....	597 37
39	Victoria	31,857 00	34,497 37	4,125 81	9,662 96	....	....	231 72
40	Peterborough	15,354 29	28,247 11	870 61	10,497 16	....	....	....
41	Haliburton	11,367 81	7,019 09	267 00	2,532 69	72 70	....	....
42	Hastings	59,120 96	49,635 10	8,114 47	8,959 85	963 85	....	266 50
43	Muskoka	2,907 44	10,331 84	2,216 37	5,117 41	224 04	....	....
44	Parry Sound	....	7,830 84	214 62	1,480 00	....	....	....
45	Algoma	....	16,633 33	810 48	6,727 77	9,297 91	....	....
46	Nipissing	....	832 44	72 78	860 12	....	....	31 00
	Totals	1,105,372 64	1,711,164 61	270,673 96	718,534 68	15,643 31	14,431 80	259,324 17

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

Assets and Liabilities for the Township Municipalities, etc.—*Continued.*

EXPENDITURE—*Continued.*

Expenses of municipal government.						Debentures redeemed.	Refund of money borrowed for current expenditure.	Interest on loans and advances.	Number.
Election of members of council.	Allowances, salaries and commissions.	Law costs.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Other expenses of municipal government.				
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
453 14	9,491 37	2,863 16	1,529 53	244 86	388 49	53,016 16	26,484 45	12,436 55	1
1,005 81	9,553 30	5,346 13	1,450 04	120 26	182 94	45,168 31	38,863 86	7,609 88	2
446 02	6,207 50	989 19	1,571 68	27 18	211 49	5,748 02	30,455 00	4,148 83	3
369 80	5,283 53	110 37	735 02	95 97	181 78	4,860 00	7,996 12	1,959 50	4
215 78	3,870 84	406 41	541 17	77 12	88 78	2,100 00	6,015 02	1,088 17	5
257 79	3,965 03	1,485 41	720 82	233 36	....	1.172 27	4,130 09	717 83	6
405 20	10,167 24	2,521 93	1,899 97	90 15	324 79	40,627 25	26,098 87	14,011 71	7
707 93	9,899 85	357 45	1,429 94	67 64	199 49	9,769 08	13,421 77	10.121 00	8
652 07	9,777 64	684 58	1,563 51	46 30	70 50	1,743 48	7,683 67	14,271 79	9
825 31	10,830 29	844 00	1,818 42	117 40	350 42	2,127 87	8,937 68	23,043 21	10
792 52	11,802 12	871 57	1,789 91	67 00	561 10	6,065 20	8,833 76	8,332 30	11
663 57	12,296 45	3,210 17	1,326 24	143 58	12 00	10,758 11	14,791 62	3,210 89	12
322 06	6,361 45	239 27	830 37	79 60	651 15	5,330 00	8,000 00	2,266 96	13
265 12	4,257 55	67 98	397 79	56 13	102 75	2.227 87	4,983 38	1,126 02	14
415 82	8,111 25	1,287 29	1,127 36	61 05	250 24	12,621 41	14,820 59	7,273 32	15
508 87	8.589 10	371 50	1,353 42	49 92	241 44	5,397 46	10,425 75	5,176 88	16
267 25	5,752 59	219 55	991 57	92 58	....	1,117 40	3,705 00	1,598 88	17
283 20	3,087 00	225 00	685 90	17 50	105 60	8,582 05	7.320 76	6,551 50	18
289 01	3,547 91	228 27	608 43	32 52	62 10	2,772 62	3,200 00	136 96	19
463 76	5,551 79	733 95	1,194 37	173 25	81 36	2,126 67	101 27	310 00	20
197 63	3,107 61	....	434 12	43 00	162 00	....	5,676 48	45 45	21
339 00	3,965 75	54 77	525 57	110 22	112 00	4,720 00	4,600 00	2,105 80	22
667 06	12,400 79	985 92	2,013 71	78 41	479 57	3,432 50	4,480 57	4,910 61	23
188 92	8,848 20	22 05	1,261 01	322 43	58 40	4,292 01	25,054 11	8,472 33	24
203 24	4,821 19	777 88	560 17	136 85	....	2,543 58	....	692 35	25
341 83	5,650 95	649 88	722 98	244 91	80 88	4,918 96	10,298 99	1,648 84	26
162 00	2,300 96	128 89	620 76	190 05	58 40	100 00	9,895 60	650 56	27
257 74	3,891 87	60 00	834 09	118 71	273 79	1,483 70	4,974 98	2,184 34	28
196 75	5,556 93	135 80	1,245 79	203 38	63 22	200 00	2,038 00	132 28	29
578 66	8,889 77	458 28	1,324 68	162 85	115 55	800 00	4,365 39	288 97	30
196 55	1,549 32	129 71	447 28	....	74 19	500 00	3,005 11	840 71	31
320 75	1,660 97	304 22	666 11	52 50	30 00	905 00	1,600 00	381 62	32
282 98	2,925 13	53 91	345 11	20 00	186 56	360 00	790 74	2,703 40	33
324 48	2,118 84	31 40	359 14	28 00	129 29	641 20	1,316 71	408 27	34
295 85	3,109 80	492 60	578 40	45 25	22 70	306 50	1,983 89	95 78	35
333 77	6,315 47	634 23	694 54	136 97	45 21	2,270 00	4,661 94	1,736 95	36
130 64	5,186 15	169 37	1,171 28	50 25	67 68	681 86	407 97	710 52	37
219 43	4,761 89	3 00	869 46	169 62	37 50	1,155 00	350 00	596 53	38
251 40	4,836 90	995 87	637 48	....	190 00	2,370 52	2,200 05	5,024 61	39
160 00	4,102 62	14 00	728 75	166 89	101 85	464 50	4,070 45	163 01	40
40 05	1.968 77	700 35	424 56	....	15 00	108 48	257 08	28 92	41
332 09	6,618 55	263 69	1,200 50	152 15	155 42	3,964 54	2,234 40	3,949 63	42
262 44	3,699 28	465 64	665 41	172 03	112 70	1,292 64	1,615 04	181 87	43
94 25	2,398 70	232 70	421 04	50 25	103 86	2,302 95	1,030 60	178 99	44
137 70	5,426 71	650 34	2,920 55	24 00	152 60	1,732 60	2,420 00	1,348 49	45
28 18	919 47	30 40	136 82	....	92 50	....	100 00	....	46
16,153 42	265,436 39	31,508 08	45,374 77	4,572 09	6,987 29	264.877 77	345.696 76	164,273 01	

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE No. IX.—Summary statement of Receipts, Expenditure,

Number.	Counties.	Expenditure—*Continued.*						
		Sinking fund investments.						
		Mortgages.	Debentures of other municipalities.	Debentures of the municipality.	Loans and deposits.	Sheep killed by dogs.	Support of the poor and other charities.	Board of Health.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	1,000 00			1,645 63	1,200 44	1,951 69	258 97
2	Kent					1,547 49	2,977 49	346 00
3	Elgin					680 48	319 65	272 90
4	Norfolk	1,290 00				488 70	600 12	167 10
5	Haldimand					360 74	1,130 32	349 86
6	Welland	2,745 00			446 51	304 06	1,745 20	73 46
7	Lambton					1,061 25	2,103 21	138 45
8	Huron	10,466 00			7,231 06		2,923 79	325 85
9	Bruce	6,621 25		1,300 00	4,635 59		2,645 35	393 55
10	Grey	3,542 00		950 00	20,871 37		2,354 34	462 17
11	Simcoe			448 90	3,321 63		1,907 45	126 70
12	Middlesex					2,150 33	1,444 85	265 24
13	Oxford			1,732 44	7,880 22	1,382 38	2,769 67	384 07
14	Brant	2,500 00			6,669 29	891 10	2,418 35	169 45
15	Perth						1,442 97	169 00
16	Wellington	800 00	1,250 00		7,722 87		204 98	276 20
17	Waterloo	11,600 00			1,830 00	1,082 86	389 52	495 27
18	Dufferin				3,660 94		279 74	33 75
19	Lincoln					415 33	207 80	133 25
20	Wentworth	3,700 00	1,814 21			616 46	3,049 50	441 60
21	Halton	2,400 00			1,260 00	842 01	1,078 57	8 00
22	Peel		1,832 20		5,775 00	260 66	1,541 37	52 70
23	York		8,427 64		11,433 59	1,659 35	1,406 97	410 70
24	Ontario	4,000 00			3,331 00	1,327 26	4,346 47	228 75
25	Durham					212 77	3,200 39	137 20
26	Northumberland				40 00	614 48	3,079 87	85 50
27	Prince Edward	393 44				9 32	2,845 77	35 00
28	Lennox and Addington	9,500 00			273 40	16 00	1,555 46	146 33
29	Frontenac						765 65	435 91
30	Leeds and Grenville						2,659 39	41 00
31	Dundas						974 37	
32	Stormont						992 62	274 65
33	Glengarry				4,625 97		370 94	64 24
34	Prescott						61 10	256 54
35	Russell						105 67	351 37
36	Carleton				237 20		199 45	107 70
37	Renfrew				865 60	55 50	233 57	74 00
38	Lanark					3 33	343 00	95 25
39	Victoria	1,200 00			1,131 40		1,340 61	182 50
40	Peterborough				54 00		1,476 90	4 00
41	Haliburton				300 00		161 15	389 19
42	Hastings						2,129 45	94 50
43	Muskoka				77 00	21 00	194 06	30 40
44	Parry Sound				125 00	5 00	103 45	68 25
45	Algoma				290 00	40 00	430 72	154 60
46	Nipissing						10 00	
	Totals	61,757 69	13,324 05	4,431 34	95,734 27	17,248 30	64,472 96	9,011 12

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

Assets and Liabilities for the Township Municipalities, etc.—*Continued.*

EXPENDITURE.—*Con.*			ASSETS.					
Miscellaneous.	Total.	Balance December 31, 1887.	Land, buildings, furniture, etc.	Stock in public works.	Mortgages.	Debentures.	Other investments.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
5,808 65	258,123 29	21,896 65	9,450 00	6,000 00	2,000 00	11,168 00	4,139 16	1
9,327 46	360,711 96	25,876 99	13,200 00	....	....	712 17	447 11	2
5,937 15	209,684 76	13,248 95	4,660 00	....	....	....	....	3
2,313 41	98,808 93	3,461 68	9,100 00	....	6,650 00	1,619 00	2,165 72	4
973 76	87,479 45	5,581 75	5,800 00	....	4,850 00	3,050 00	7,346 00	5
1,920 86	81,735 79	6,206 41	17,370 00	....	17,128 19	25,000 00	446 51	6
14,773 14	264,598 27	13,018 64	5,100 00	....	....	....	....	7
2,913 75	249,813 86	24,024 04	6,770 00	....	72,198 00	16,355 00	23,277 64	8
4,115 55	218,054 90	24,689 02	5,425 50	300 00	44,496 66	22,220 00	7,128 83	9
4,593 65	243,130 08	15,701 81	10,080 00	....	20,326 33	33,223 90	137,331 12	10
2,434 00	225,599 26	17,468 25	2,500 00	....	....	1,392 92	20,497 00	11
5,740 40	298,348 85	23,274 60	10,750 00	....	....	11,400 00	10,281 38	12
1,980 14	180,945 61	19,900 77	5,525 00	5,000 00	16,100 00	9,699 32	17,629 35	13
1,413 28	82,963 51	786 59	5,700 00	....	27,670 00	40,948 25	13,060 50	14
1,799 40	187,385 82	12,760 75	3,700 00	....	7,440 00	....	4,363 92	15
1,642 14	184,529 00	19,520 32	3,750 00	....	21,565 00	16,577 25	19,123 38	16
1,393 00	129,259 10	6,029 28	2,500 00	....	39,881 70	5,754 00	10,894 54	17
4,595 55	107,562 55	5,584 06	1,800 00	9,100 00	....	9,315 40	13,541 09	18
958 77	64,225 95	3,462 60	1,000 00	....	....	....	....	19
1,649 64	97,369 12	14,932 50	13,025 00	25,000 00	22,778 00	49,836 00	8,855 75	20
364 96	77,638 15	1,480 93	3,025 00	....	34,650 00	14,800 00	15,499 33	21
796 28	89,124 74	9,090 39	6,500 00	....	10,920 00	51,555 36	21,495 04	22
1,901 68	212,781 26	15,898 38	6,750 00	....	17,989 99	143,890 51	35,419 15	23
1,683 07	166,930 37	4,940 86	13,050 00	....	19,750 00	29,966 91	13,652 46	24
1,547 80	75,553 01	7,555 63	9,400 00	34,368 00	....	....	....	25
1,534 06	99,800 25	7,589 08	16,750 00	....	800 00	200 00	1,998 00	26
991 62	64,837 41	2,467 11	14,700 00	....	24,790 94	....	15,397 55	27
905 33	98,566 67	6,080 90	5,250 00	....	11,700 00	37,400 00	14,543 87	28
1,720 81	82,757 05	4,069 40	11,955 21	400 00	....	14,300 00	....	29
4,633 59	129,637 88	12,767 31	31,250 00	....	13,013 00	13,733 32	37,351 88	30
721 66	46,070 51	896 75	1,000 00	....	....	....	....	31
845 81	43,637 22	1,365 45	400 00	....	....	....	....	32
641 78	49,335 25	3,755 63	2,693 00	....	....	....	31,631 87	33
694 78	35,198 10	1,253 62	2,700 00	....	....	....	....	34
304 98	37,943 75	3,957 47	3,200 00	....	....	....	....	35
1,297 32	102,535 59	1,629 90	12,800 00	10,400 00	4,450 00	....	5,113 86	36
568 15	57,021 51	7,300 11	5,200 00	....	....	....	4,038 40	37
525 97	64,709 60	4,606 15	5,520 00	1,560 00	....	....	7,600 00	38
983 29	101,719 49	6,152 64	6,000 00	....	22,674 00	3,130 00	7,807 59	39
1,065 32	67,541 46	7,381 24	8,225 00	....	....	....	54 00	40
668 68	26,321 52	732 18	3,000 00	....	....	....	100 00	41
1,008 17	149,163 82	5,134 03	15,100 00	....	....	....	....	42
660 30	30,246 91	4,063 33	3,000 00	....	....	....	553 76	43
631 53	17,272 03	1,854 91	591 00	....	....	....	....	44
6,643 95	55,841 75	3,611 47	11,113 28	....	....	....	290 00	45
21 50	3,135 21	469 48	....	....	....	....	....	46
109,646 09	5,615,650 57	403,530 01	336,377 99	92,128 00	463,821 81	567,247 31	513,075 76	

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE No. IX.—Summary statement of Receipts, Expenditure,

Number.	Counties.	Assets.—*Continued.*					
		Uncollected taxes for 1887.	Other arrears of taxes (estimated).	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	96,444 95	11,052 46	21,896 65	....	8,737 86	170,889 08
2	Kent	53,512 43	9,370 26	8,270 75	17,606 24	19,179 53	122,298 49
3	Elgin	9,767 84	2,696 62	11,652 81	1,596 14	2.219 26	32,592 67
4	Norfolk	20,821 80	1,199 70	2,098 15	1,363 53	4,520 00	49,537 90
5	Haldimand	1,032 29	10 00	5,581 75	....	....	27,670 04
6	Welland	10,533 37	....	6,206 41	....	924 10	77,608 58
7	Lambton	53,767 99	17,524 64	9,172 82	3,845 82	4,598 36	94,009 63
8	Huron	13,624 24	394 11	16,889 14	7,134 90	4,264 47	160,907 50
9	Bruce	22,450 83	5,529 32	9,979 04	14,709 98	18,079 64	150,319 80
10	Grey	55,092 43	2,141 63	15,268 97	432 84	18,311 06	292,208 28
11	Simcoe	62,370 62	5,402 77	9,352 70	8,115 55	8,845 11	118,476 67
12	Middlesex	101,045 01	856 11	13,621 70	9,652 90	1,829 07	159,436 17
13	Oxford	3,526 03	476 40	7,645 78	12,254 99	....	77,856 87
14	Brant	5,062 68	....	786 59	....	....	93,228 02
15	Perth	26,875 95	40 83	12,760 75	....	3,034 08	58,215 53
16	Wellington	31,046 68	518 35	17,793 06	1,727 26	4,880 85	116,981 83
17	Waterloo	467 25	46 04	3,959 77	2,069 51	400 00	65,972 81
18	Dufferin	17,422 97	2,123 47	5,584 06	....	156 26	59,043 25
19	Lincoln	7,976 23	25 85	3,462 60	....	266 98	12,731 66
20	Wentworth	8,644 32	....	4,244 06	10,688 44	1,222 30	144,293 87
21	Halton	7,515 17	141 81	1,480 93	....	841 68	77,953 92
22	Peel	67 97	....	2,846 04	6,244 35	59 30	99,688 06
23	York	27,630 16	1,565 21	9,336 52	6,561 86	6,401 50	255,544 90
24	Ontario	9,658 59	164 77	3,914 86	1,026 00	12,366 06	103,549 65
25	Durham	9,712 19	59 07	7,555 63	....	417 17	61,512 06
26	Northumberland	14,965 38	117 96	7,589 08	....	3,592 75	46,013 17
27	Prince Edward	3,344 27	....	1,807 06	660 05	....	60,699 87
28	Lennox and Addington	25,282 50	116 51	6,080 90	....	906 41	101,280 19
29	Frontenac	19,740 28	2,700 00	4,069 40	....	4,112 50	57,277 39
30	Leeds and Grenville	8,318 86	232 92	11,717 31	1,050 00	3,640 65	120,307 94
31	Dundas	2,035 09	157 23	896 75	....	301 21	4,390 28
32	Stormont	12,457 32	177 18	1,365 45	....	50 00	14,449 95
33	Glengarry	20,580 78	30 36	3,755 63	....	1,709 00	60,400 64
34	Prescott	11,010 41	208 94	1,253 62	....	....	15,172 97
35	Russell	20,423 84	931 38	3,957 47	....	223 72	28,736 41
36	Carleton	48,966 15	1,200 00	1,629 90	....	....	84,559 91
37	Renfrew	18,125 17	712 63	5,961 88	1,338 23	100 61	35,476 92
38	Lanark	7,475 86	95 44	4,606 15	....	365 00	27,222 45
39	Victoria	51,905 52	1,722 24	2,981 23	3,171 41	1,209 10	100,601 09
40	Peterborough	22,494 68	2,119 92	3,787 12	3,594 12	411 04	40,685 88
41	Haliburton	9,841 64	315 41	732 18	....	100 67	14,089 90
42	Hastings	65,941 07	1,884 99	2,109 26	3,024 77	5,770 00	93,830 09
43	Muskoka	9,131 45	1,581 77	4,063 33	....	1,055 90	19,386 21
44	Parry Sound	9,340 87	607 56	1,854 91	....	3,751 27	16,145 61
45	Algoma	25,982 09	5,010 51	3,611 47	....	6,616 09	52,623 44
46	Nipissing	2,014 42	117 00	469 48	....	....	2,600 90
	Totals	1,065,447 64	81,379 37	285,661 12	117,868 89	155,470 56	3,678,478 45

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

Assets and Liabilities for the Township Municipalities, etc.—*Continued.*

LIABILITIES.

County rates.	Local school rates.	Debentures outstanding for—		Coupons on debentures due and unpaid.	Loans for current expenditure and interest due on same.	Miscellaneous.	Total.	Number.
		Aid to railways.	All other objects.					
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
7,795 72	8,743 49	42.000 00	299,896 64	22 50	4,790 64	34,053 61	397,302 60	1
19,064 03	10,411 70	....	369,038 80	....	1,489 31	71,385 16	471,389 00	2
11,608 83	1,016 92	....	75,132 76	....	3,044 76	6,652 32	97,455 59	3
6,666 28	5.309 45	22,500 00	3,906 95	6 00	6,616 75	400 00	45,405 43	4
....	400 00	....	7,870 00	....	1,723 42	....	9,993 42	5
5,950 18	378 20	....	7,023 00	....	3,368 00	....	16,719 38	6
7,298 94	9,329 22	14,600 00	168,954 83	1,562 64	13,559 32	117,457 85	332,762 80	7
13,243 49	558 81	134,500 00	32,715 47	300 00	2,730 00	8,801 44	192,849 21	8
6,899 57	2,137 46	201,000 00	30,774 20	....	3,330 04	5,480 86	249,622 13	9
9,764 76	4,034 74	340,350 00	45,179 96	....	5,160 24	4,839 54	409,329 24	10
25,863 53	11,453 27	120,900 00	39,400 30	....	2,193 74	8,350 97	208,161 81	11
59,039 56	8,069 67	15,000 00	58,634 36	29 44	4,450 00	10,361 39	155,584 42	12
6,349 00	330 33	20.600 00	24,058 66	....	13,438 40	144 00	64,920 39	13
1,407 67	....	12,790 00	2,158 38	....	3,192 66	112 36	19,661 07	14
10,787 96	306 79	89,500 00	51,705 44	1,350 00	1,300 00	1,775 73	156,725 92	15
16,411 22	861 11	63,000 00	20,767 67	600 00	6,856 34	1,527 10	110,023 44	16
....	....	....	22,875 14	....	2,800 27	220 00	25,895 41	17
4,166 60	2,608 01	48,875 00	72,944 36	204 00	3,757 67	18,749 89	151,305 53	18
6,616 86	669 46	....	....	....	728 97	240 25	8,255 54	19
....	3,880 72	....	4,945 66	....	1,498 27	2,004 90	12,329 55	20
....	....	....	....	....	818 68	2,400 00	3,218 68	21
....	431 75	23,000 00	3,720 00	....	4,720 30	32 40	31,904 45	22
6,659 40	14,073 92	55,750 00	23,864 00	....	8,477 27	7,268 59	116,093 18	23
5,223 40	682 00	97,100 00	40,840 84	....	4,695 54	600 68	149,142 46	24
....	1,258 09	....	13,082 80	....	556 35	906 50	15,803 74	25
190 35	1,034 29	24,890 00	5,278 46	....	7,350 13	2,883 17	41,626 40	26
5,045 28	3 68	....	300 00	....	2,964 70	3,256 10	11,569 76	27
15,223 44	1,534 44	30,000 00	4,035 00	....	4,646 07	810 31	56,249 26	28
15,849 67	4,664 36	....	840 00	....	1,917 80	872 56	24,144 39	29
4,657 00	112 29	35,000 00	11,010 00	....	4.027 91	600 00	55,407 20	30
4,422 04	241 96	14,100 00	....	....	3,522 25	1,101 50	23,387 75	31
4,813 22	1,221 74	1,800 00	5,000 00	....	6,245 10	1,719 45	20,799 51	32
3,610 94	10,621 18	42,000 00	3,380 00	1,335 00	33 26	3,852 56	64,832 94	33
4,037 26	4,863 69	....	5,438 00	....	535 62	2,147 62	17,022 19	34
4,033 95	4,927 71	....	3,113 00	....	4,592 32	597 00	17,263 98	35
15,612 54	20,892 11	....	28,872 89	....	3,479 17	1,772 38	70,629 09	36
5,586 56	5,777 03	8,500 00	3,052 92	....	770 98	1,710 65	25,398 14	37
449 18	459 98	....	9,382 25	....	860 47	....	11,151 88	38
22,952 00	7,889 82	60,392 00	34,970 43	....	347 81	636 40	127,188 46	39
17,572 68	4,072 13	2,934 00	520 00	....	1,734 91	1,132 75	27,966 47	40
2,683 19	3,891 49	....	....	....	2,962 92	651 28	10,188 88	41
33,268 72	10,839 85	46,200 00	19,759 40	45 00	172 83	3,585 52	113,871 32	42
1,053 70	4,188 23	....	3.855 56	....	501 48	1,328 30	10,927 27	43
39 41	5,774 93	....	5,645 85	239 05	1,131 40	942 81	13,773 45	44
....	9,108 31	10,500 00	12,702 60	....	2,243 60	5,671 99	40,226 50	45
....	1,243 76	....	....	....	....	673 47	1,917 23	46
391,918 13	190,308 09	1,577,781 00	1,576,646 58	5,693 63	155,337 67	339,711 36	4,237,396 46	

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE No. X.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Township

Number.	Counties.	Receipts.						
			Taxes, municipal and school.				Received from Government on account of—	
		Balance from 1885.	Per collector.	Non-resident taxes.	Licenses, various.	Interest on bank deposits and dividends from other investments.	Schools.	Other purposes (except loans.)
		$ c.	$ c.	$ c.	$ c,	$ c.	$ c.	$ c.
1	Essex	14,826 63	127,521 93	7,544 89	1,515 69	226 43	3,343 78	8,500 24
2	Kent	26,829 07	178,752 58	10,211 57	194 18	488 18	2,639 00	196 86
3	Elgin	12,724 48	134,863 93	1,404 88	143 64	128 04	2,158 00	257 04
4	Norfolk	5,475 17	78,380 29	1,723 40	....	593 83	1,552 00	25 08
5	Haldimand	11,137 17	71,102 32	254 89	1,079 70	893 76	1,462 93	36 74
6	Welland	5,169 91	56,958 27	247 09	1,528 65	2,984 25	2,160 00	32 16
7	Lambton	8,067 11	171,952 04	15,808 24	169 13	41 11	2,025 00	60 96
8	Huron	14,974 57	199,294 21	2,090 20	. ...	3.678 78	3,983 00	15,262 07
9	Bruce	17,466 48	167,896 98	3,023 47	....	4,077 38	3,272 00	32,670 71
10	Grey	13,675 58	192,845 74	5,022 58	2,487 69	3,580 91	5,144 00	25,785 93
11	Simcoe	13,330 84	196,713 46	6,435 86	8 16	498 23	6,171 30	47 74
12	Middlesex	23,050 21	268,793 25	3,364 62	157 15	1,197 62	4,751 00	110 94
13	Oxford	27,583 23	141,770 96	543 05	... .	2,927 63	1,912 00	75 09
14	Brant	5,096 38	57,739 25	298 25	124 68	4,875 47	.. . ..	54 12
15	Perth	6,694 35	153,161 45	620 42	1,714 87	961 56	3,346 00	8,100 15
16	Wellington	12,198 45	173,864 54	1,524 84	203 99	2,713 60	4,579 00	304 62
17	Waterloo	11,452 86	95,239 79	75	1,934 65	3,354 45	... .	28 71
18	Dufferin	3,723 27	69,608 52	3,832 30	....	501 42	....	89 60
19	Lincoln	2,799 86	58,424 93	334 09	56 00	....	823 00	21 09
20	Wentworth	16,489 62	71,754 40	107 00	1,546 43	5,336 03	3,188 00	318 70
21	Halton	2,706 60	61,470 39	609 25	....	2,527 71	1,875 00	21 90
22	Peel	4,028 84	68,196 06	130 00	1,299 20	5,464 00	926 00	272 63
23	York	20,610 63	147,204 60	1,166 77	5,045 04	10,451 62	2,414 00	467 69
24	Ontario	9,886 88	111,553 96	1,789 30	457 86	2,638 89	3,734 50	62 54
25	Durham	9,286 67	72,335 10	101 74	23 92	1,778 54	2,292 00	38 13
26	Northumberland	11,349 59	81,232 25	92 85	111 57	97 00	1,848 00	51 66
27	Prince Edward	949 43	54,799 87	22 19	515 85	1,429 81	....	10 83
28	Lennox and Addington	2,341 82	69,661 18	24 07	40 78	3,969 67	2,278 00	236 26
29	Frontenac	4,362 10	68,548 19	1,526 39	249 24	1,302 00	1,994 00	517 63
30	Leeds and Grenville	11,157 59	108,153 67	375 32	406 99	2,667 25	3,797 45	55 56
31	Dundas	2,471 50	46,452 81	5 25	....	... .	2,020 00	31 65
32	Stormont	1,361 88	38,822 69	125 50	....	....	1,928 00	17 15
33	Glengarry	1,896 65	44,796 65	... .	....	....	1,679 00	31 99
34	Prescott	3,485 39	38,348 27	2,090 99	1,548 69	....	1,196 00	22 63
35	Russell	1,583 45	27,857 23	4,565 22	756 99	....	1,648 00	67 82
36	Carleton	5,674 87	86,683 06	1,285 50	591 19	618 30	2,184 00	25 92
37	Renfrew	8,389 87	53,186 00	1,515 11	....	224 79	3,068 20	190 00
38	Lanark	4,404 41	59,579 70	1,634 27	241 43	767 85	2,889 65	88 26
39	Victoria	5,983 30	93,726 90	2,833 45	63 26	1,890 00	2,200 00	38 07
40	Peterboro'	5,609 66	60,119 64	1,832 05	114 15	....	461 00	425 43
41	Haliburton	615 44	23,234 88	1,243 75	80 00	1 00	381 00	296 10
42	Hastings	4,227 27	127,478 33	4,054 95	1,596 90	34 45	4,347 00	474 27
43	Muskoka	4,537 80	24,201 44	1,345 35	70 45	5 50	1,442 06	643 70
44	Parry Sound	2,168 27	17,167 72	....	252 36	184 48	173 20	132 15
45	Algoma	3,252 36	30,482 16	7,042 93	3,809 56	....	307 57	17 93
46	Nipissing	24 38	1,443 06	....	444 83	....	64 00	38 51
	Totals	385,131 89	4,283,374 65	99,804 59	30 584 87	75,111 54	99,597 64	96,254 96

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

Municipalities in the Province of Ontario, grouped by counties, for the year ending December 31, 1886.

RECEIPTS.—*Continued.*

Fees, rents, tolls, fines, etc.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures for—			Taken from sinking fund.	Miscellaneous.	Total.	Number.
			Tile drainage.	Municipal drainage.	Other purposes.				
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
141 70	....	30,720 99	....	53,156 45	19,443 82	....	13,803 45	280,746 00	1
1,019 87	271 11	40,381 86	4,100 00	69,646 26	9,135 00	....	3.930 53	347,796 07	2
2,355 60	....	21,930 80	3,200 00	3,866 40	....	....	1,436 59	184,469 40	3
40 30	24 28	4,215 01	....	....	....	....	2,964 21	94,993 57	4
68 94	....	2,890 02	....	900 00	....	....	1,408 47	91,234 94	5
247 02	....	2,130 09	....	5,590 00	....	....	1,177 70	78,225 14	6
124 75	....	25,709 40	1,200 00	21,281 50	800 00	....	13,159 48	260,398 72	7
221 95	2,131 41	13,221 47	....	....	....	....	7,043 53	261,901 19	8
34 50	7,751 29	7,937 60	....	....	....	....	7,240 58	251,370 99	9
213 71	9,618 84	10,008 68	....	....	....	543 57	2,490 57	271,417 80	10
125 66	240 00	6,791 51	....	147 88	4,650 00	....	7,539 56	242,700 20	11
169 57	....	14,831 85	5,600 00	14,572 47	4,520 00	....	4,236 64	345,355 32	12
122 98	9,825 93	6,825 93	....	472 04	704 00	....	8,214 10	200,976 94	13
166 00	18,411 96	5,413 73	....	1,027 44	....	....	427 21	93,634 58	14
95 25	4,070 00	19,182 52	....	....	....	....	9,490 13	207,436 70	15
39 25	4,282 86	8,532 61	....	2,600 00	1,118 91	13,181 91	3,422 96	228,567 54	16
13 00	2,500 00	4,162 00	....	....	11,389 00	....	5,992 37	136,067 58	17
....	....	8,479 33	....	2,317 87	4,597 30	....	613 76	93,763 37	18
63 97	....	3,931 65	....	....	....	....	812 72	67,267 31	19
4,238 80	2,050 00	476 09	....	....	1,183 55	....	856 38	107,545 00	20
67 40	399 00	2,020 68	....	....	....	....	2,838 27	74,536 20	21
83 00	6,638 60	7,024 35	....	....	500 00	2,425 17	356 09	97,343 94	22
62 00	28,470 48	4,905 97	....	....	8,222 80	....	2,970 23	231,991 83	23
98 35	....	14,282 15	....	1,200 00	....	1,000 00	3,050 10	149,754 53	24
99 50	....	3,414 25	....	116 94	....	....	681 78	90,168 57	25
1,113 60	....	9,597 74	....	....	....	....	932 05	106,426 31	26
21 00	....	8,985 63	....	....	....	....	4,272 61	71,007 22	27
60 05	....	4,933 93	....	....	....	....	6,562 17	90,107 93	28
155 71	9,100 00	3,011 63	....	....	403 18	....	2,028 09	93,198 16	29
1,597 75	527 69	3,827 39	....	....	701 00	....	2,923 43	136,191 09	30
976 50	610 00	5,933 13	....	....	....	....	489 71	58,990 55	31
157 67	....	5,150 00	....	....	....	....	131 88	47,694 77	32
427 30	....	790 74	....	....	500 00	....	454 81	50,577 14	33
88 65	669 24	881 33	....	....	4,600 00	....	1,063 93	53,995 12	34
....	....	4,161 65	....	....	....	....	178 66	40,819 02	35
819 40	150 00	5,884 03	....	....	4,991 00	....	744 92	109,652 19	36
187 66	414 40	207 97	....	....	1,723 00	....	800 73	69,847 73	37
72 37	....	1,197 55	....	327 25	....	....	524 30	71,727 04	38
40 00	3,358 94	2,626 70	600 00	805 77	1,500 00	....	2,228 54	117,894 93	39
96 90	....	2,834 24	....	....	....	....	412 87	71,905 94	40
30 80	107 92	1,124 44	....	....	....	....	1,150 10	28,265 43	41
296 36	131 47	1,987 18	....	....	....	....	6,013 35	150,641 53	42
66 25	....	500 00	....	....	....	....	1,489 41	34,301 96	43
188 61	....	761 60	....	....	1,378 00	....	131 82	22,538 21	44
707 24	303 00	1,888 85	....	....	3,404 18	....	261 57	51,477 35	45
73 50	....	100 00	....	....	....	....	49 03	2,237 31	46
17,090 48	112,058 42	335,806 27	14,700 00	178,028 27	85,464 74	17,150 65	139,001 39	5,969,160 36	

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE NO. X.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	EXPENDITURE.						
							Drainage works and expenses of—	
		Taxes paid to county treasurer.	School boards on account of school rates.	Other payments on account of schools and education.	Roads, bridges, streets and parks.	Buildings and other property.	Tile drainage.	Other drainage works.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	21,174 88	43,331 25	4,224 83	17,435 91	....	....	47,990 72
2	Kent	23,172 95	54,041 72	9,515 70	26,477 89	215 14	4,203 12	91,050 72
3	Elgin	25,799 00	44,870 73	3,944 14	27,967 25	....	5,208 10	10,821 29
4	Norfolk	16,782 03	34,803 57	3,345 16	12,880 67	....	....	174 88
5	Haldimand	22,812 01	28,807 79	3,301 13	13,537 45	25 00	....	938 13
6	Welland	17,170 05	23,008 07	6,592 75	5,947 32	....	....	5,945 39
7	Lambton	22,429 41	58,661 79	4,206 95	36,688 08	....	1,200 00	23,312 15
8	Huron	62,499 42	68,207 80	7,557 31	39,319 60	1,505 00	....	1,255 01
9	Bruce	59,492 70	62,950 71	6,419 00	30,484 38	....	....	8 99
10	Grey	39,221 03	76,431 42	10,500 00	25,149 60	2,360 85	....	12 78
11	Simcoe	62,927 78	81,467 36	16,130 55	19,671 77	....	....	260 68
12	Middlesex	76,428 52	81,306 96	14,746 20	56,537 48	266 05	5,556 23	16,079 71
13	Oxford	47,634 23	50,996 48	5,068 00	27,789 73	449 25	....	13,709 59
14	Brant	13,758 67	22,799 18	4,888 43	12,858 01	118 00	....	1,435 81
15	Perth	49,407 82	49,709 91	5,730 00	33,409 31	....	....	2,863 71
16	Wellington	67,050 28	59,748 32	10,872 20	20,529 68	502 50	....	1,645 07
17	Waterloo	30,060 00	44,654 09	4,171 19	27,553 43	....	....	17 00
18	Dufferin	13,144 75	25,779 98	1,239 00	7,000 28	....	....	4,619 40
19	Lincoln	19,945 67	22,595 73	2,515 15	6,662 48	25 00	....	....
20	Wentworth	15,053 74	31,542 68	12,806 71	13,199 61	171 97	....	418 35
21	Halton	24,900 24	21,645 73	7,005 72	9,446 03	....	....	....
22	Peel	20,550 58	26,859 69	5,192 78	10,861 15	....	....	....
23	York	34,444 77	61,080 39	22,180 81	35,622 06	328 00	....	....
24	Ontario	17,273 10	47,259 10	5,932 37	22,425 64	135 83	....	1,476 80
25	Durham	9,574 00	37,136 43	3,596 00	12,439 79	....	....	....
26	Northumberland	9,825 25	43,565 72	5,415 97	15,766 97	10 00	....	....
27	Prince Edward	14,214 85	24,390 53	1,675 48	4,974 79	....	....	....
28	Lennox and Add.	27,047 90	24,007 00	6,611 21	9,179 38	....	....	224 74
29	Frontenac	25,651 28	31,808 94	3,456 18	8,213 15	1,783 85	....	1,500 52
30	Leeds and Gren.	20,614 00	53,154 53	9,241 43	15,942 00	180 31	....	685 50
31	Dundas	6,946 01	24,043 65	4,513 36	9,894 09	54 05	....	989 55
32	Stormont	4,222 27	21,248 01	3,079 00	5,895 65	....	....	257 00
33	Glengarry	5,475 82	21,122 45	2,807 00	4,566 85	....	....	17 00
34	Prescott	5,677 18	19,975 51	2,643 34	11,369 12	275 00	....	2,278 90
35	Russell	5,029 71	13,548 87	1,648 00	6,599 33	592 78	....	105 16
36	Carleton	18,158 85	45,540 19	10,271 57	11,486 47	....	....	2,769 81
37	Renfrew	8,281 74	29,634 29	6,351 71	4,331 86	28 25	....	43 50
38	Lanark	9,805 18	33,702 20	4,010 99	7,845 19	59 00	....	325 46
39	Victoria	32,456 45	33,516 86	6,115 19	8,363 36	....	600 00	1,214 17
40	Peterborough	18,912 39	27,174 72	220 66	10.122 75	....	....	....
41	Haliburton	8,833 81	8,253 34	684 70	2,159 72	....	....	....
42	Hastings	52,539 27	51,598 13	10,355 45	9,430 33	768 10	....	....
43	Muskoka	2,248 44	11,701 77	2,439 09	4,659 08	78 55	....	....
44	Parry Sound	....	11,610 69	1,551 20	1,807 90	....	....	....
45	Algoma	....	17,315 24	313 57	4,043 54	120 50	....	....
46	Nipissing	....	680 58	64 00	616 34	....	....	....
	Totals	1.088,648 03	1,707,290 10	265,151 18	709,162 47	10,052 98	16,767 45	234,447 49

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

and Liabilities for the Township Municipalities, etc.—*Continued.*

Expenditure.—*Continued.*									
Expenses of municipal government.						Debentures redeemed.	Refund of money borrowed for current expenditure.	Interest on loans and advances.	Number.
Election of members of council.	Allowances, salaries and commissions.	Law costs.	Printing, advertising, postage and and stationery.	Insurance, heating, lighting, and care of buildings.	Other expenses of municipal government.				
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
687 78	8,303 12	2,303 86	1,892 16	127 10	1,680 19	41,460 67	33,249 32	11,726 98	1
644 43	10,091 40	5,670 83	1,952 47	274 30	530 64	44,880 33	34,984 43	5,455 64	2
607 32	6,272 40	182 05	1,721 40	157 67	1,080 77	8,376 32	23,326 65	2,259 97	3
456 17	4,691 31	79 00	678 19	74 90	365 35	6,150 00	4,212 82	2,079 00	4
295 04	4,001 94	761 36	565 95	36 25	118 50	1,960 00	1,738 90	828 14	5
276 11	3,383 82	1,521 63	676 53	94 45	109 66	1,687 00	466 74	294 26	6
303 07	8 822 72	1,929 79	1,503 92	167 68	139 84	29,510 09	29,786 72	8,883 10	7
652 14	10,245 44	245 05	1.339 59	69 85	146 00	1,487 66	13.155 70	10,298 77	8
403 76	9,443 99	132 11	1,822 48	39 00	193 75	7,098 11	11,674 29	13,530 77	9
783 94	10,868 99	246 50	1,942 66	82 23	680 52	2,890 75	12,466 71	21,663 67	10
765 99	12,106 63	546 14	1,506 24	52 57	356 01	4,401 20	8,205 21	9,708 19	11
527 15	12,301 80	3,555 52	1,546 26	120 25	64 75	6,671 50	24,893 87	2,480 50	12
285 38	6,276 68	471 25	842 84	64 50	162 01	5,693 00	3,500 00	2,184 00	13
125 00	4,291 75	334 25	483 41	36 50	115 92	3,027 87	3,364 75	1,235 14	14
294 43	7,562 31	281 50	1,126 78	25 40	122 83	18,633 85	18,335 22	8,783 68	15
458 05	8,968 67	755 12	1,523 18	36 20	254 96	14.611 05	8,700 67	5,069 00	16
315 40	6,049 97	268 03	713 00	46 60	....	409 00	3,691 00	752 96	17
313 95	3.049 70	64 80	669 40	....	114 60	9,603 87	7,258 24	5,385 72	18
206 07	3,501 43	698 33	450 88	25 50	127 00	....	3,631 65	110 30	19
457 83	5,615 17	752 58	1,202 44	145 08	125 53	1,800 00	1,000 00	305 12	20
46 00	3,294 32	3 00	382 78	106 75	67 66	....	1,969 19	28 59	21
270 00	4,266 38	....	634 53	88 04	150 00	4,810 45	7,024 35	2,163 19	22
731 28	11,614 93	1,054 59	1,776 64	36 00	....	2,652 50	1,742 21	4,430 30	23
289 56	8,402 30	29 77	1,128 15	192 72	63 20	4,936 12	13,203 04	6,931 61	24
172 51	4,841 72	13 24	642 79	136 27	7 70	2,555 49	3,414 25	904 43	25
282 63	5,298 04	126 82	756 36	351 39	114 27	4,272 96	6,335 74	1,556 86	26
199 13	2,544 62	876 65	420 42	120 71	108 80	100 00	7,815 25	544 12	27
168 96	3,913 95	121 10	527 93	72 96	10 51	835 00	6,475 11	2,256 16	28
345 57	5,399 92	231 36	929 69	105 24	122 41	600 00	2,781 19	105 49	29
661 95	8,014 60	190 83	1,293 84	73 45	48 24	1,039 62	4,076 25	152 67	30
278 98	1,811 96	1,141 06	452 66	27 40	110 35	400 00	5,165 00	597 05	31
287 92	1,933 26	80 25	658 27	40 30	40 00	815 00	5,534 90	486 10	32
172 97	3,033 18	449 89	177 30	82 75	82 00	360 00	1,689 42	2,704 70	33
255 26	3,388 93	306 83	532 24	89 00	508 09	1,548 00	879 55	829 79	34
303 89	2,906 58	426 94	162 29	72 97	....	1,206 50	4,021 20	150 40	35
171 80	5.519 18	194 57	728 52	118 23	54 07	2,000 00	3.243 49	1,671 12	36
353 32	6,426 20	156 61	928 92	41 35	40 30	362 90	11 46	583 80	37
182 62	4,606 04	65 43	1,031 67	107 85	63 35	1,789 11	897 55	370 79	38
260 26	5,368 90	139 95	825 04	52 00	50 00	3,768 96	2,084 29	6,723 80	39
81 00	4,420 61	24 22	597 80	49 45	234 11	354 50	2,653 28	150 01	40
76 25	2,105 77	1,616 50	308 58	87 64	11 75	....	1,302 66	71 06	41
503 82	7,873 94	36 88	914 95	243 94	215 00	2,218 58	673 53	4,101 63	42
195 75	3,483 17	491 14	638 21	204 56	246 24	733 26	813 24	188 09	43
82 00	2,643 94	391 34	465 47	38 25	65 27	599 06	168 05	404 46	44
107 74	5,788 14	260 50	2,269 89	30 00	177 75	4,588 59	1,388 85	1,364 78	45
8 61	378 40	8 59	21 12	....	....	....	....	....	46
15,348 70	264,119 22	29,237 76	43,365 84	4,254 25	9,079 90	252,328 87	333.005 94	152,505 91	

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE No. X.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	EXPENDITURE.—*Continued.*						
		Sinking fund investments.				Sheep killed by dogs.	Support of the poor and other charities.	Board of Health.
		Mortgages.	Debentures of other municipalities.	Debentures of the municipality.	Loans and deposits.			
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	1,500 00	....	....	588 87	1,016 12	1,992 76	339 34
2	Kent	....	....	....	....	1,329 02	3,445 52	562 34
3	Elgin	....	....	....	....	819 39	294 20	276 69
4	Norfolk	....	....	....	....	352 83	780 22	88 40
5	Haldimand	....	....	....	....	635 93	1,130 34	346 75
6	Welland	....	....	....	7 02	617 64	2,094 45	227 80
7	Lambton	....	....	....	....	892 15	1,953 26	407 85
8	Huron	5,100 00	....	....	7,497 22	....	2,976 96	255 25
9	Bruce	2,050 00	....	....	8,194 84	....	2,526 29	420 07
10	Grey	16,696 40	2,000 00	....	18,795 60	....	2,413 53	563 44
11	Simcoe	....	....	....	3,106 11	....	2,234 95	70 20
12	Middlesex	......	....	....	....	1,867 81	1,012 46	318 15
13	Oxford	7,100 00	....	....	3,325 93	591 02	2,560 29	271 77
14	Brant	1,500 00	16,500 00	....	453 24	809 56	2,293 89	262 19
15	Perth	....	....	....	1,000 00	....	1,289 34	151 90
16	Wellington	1,100 00	1,600 00	....	8,080 40	....	352 29	226 45
17	Waterloo	200 00	....	....	2,412 11	998 29	223 95	477 22
18	Dufferin	....	....	....	869 17	....	320 05	32 50
19	Lincoln	....	....	....	....	403 94	1,363 56	108 70
20	Wentworth	....	928 58	....	1,057 48	861 94	2,952 18	259 55
21	Halton	900 00	....	....	411 26	639 72	942 12	47 75
22	Peel	625 00	....	....	8,530 90	161 15	1,677 01	80 55
23	York	13,481 68	2,189 50	....	14,546 48	1,397 92	938 96	730 40
24	Ontario	....	....	....	4,381 01	870 41	4,495 08	310 68
25	Durham	....	....	....	....	367 86	3,230 45	1,255 74
26	Northumberland	....	....	....	....	432 02	3,209 21	795 07
27	Prince Edward	....	....	....	....	8 00	2,461 72	243 66
28	Lennox and Addington	....	....	....	1,500 00	19 60	1,476 36	107 38
29	Frontenac	....	5,935 50	....	....	....	515 47	34 00
30	Leeds and Grenville	....	....	....	2,488 00	....	2,705 48	56 50
31	Dundas	....	....	....	....	....	1,228 69	12 75
32	Stormont	....	....	....	....	....	705 20	827 59
33	Glengarry	....	....	....	4,320 00	....	255 15	96 50
34	Prescott	....	....	....	....	....	87 39	535 33
35	Russell	....	....	....	....	....	86 09	396 00
36	Carleton	....	....	....	1,475 66	....	215 35	310 82
37	Renfrew	....	....	....	994 20	83 66	373 60	808 47
38	Lanark	....	....	....	....	41 58	407 90	126 90
39	Victoria	1,292 00	1,210 00	....	4,697 28	....	1,451 27	218 28
40	Peterborough	....	....	....	....	....	1,009 11	8 00
41	Haliburton	....	....	....	....	....	238 37	120 00
42	Hastings	....	....	....	....	....	2,273 34	697 28
43	Muskoka	....	....	....	119 00	41 32	349 20	157 07
44	Parry Sound	....	....	....	200 00	....	136 31	163 41
45	Algoma	....	....	....	....	53 60	226 41	358 00
46	Nipissing	....	....	....	....	....	10 00	....
	Totals	51,545 08	30,303 58	....	99,051 78	15,312 48	64,915 73	14,164 69

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

and Liabilities for the Township Municipalities, etc.—*Continued.*

Expenditure—*Con.*		Balance December 31, 1886.	Assets.					
Miscellaneous.	Total.		Land, buildings, furniture, etc.	Stock in public works.	Mortgages.	Debentures.	Other investments.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
21,526 62	262,552 48	18,193 52	9,950 00	6,000 00	1,500 00	12,168 13	3,261 93	1
9,331 12	327,829 71	19,966 36	10,300 00	....	....	949 56	406 86	2
1,857 57	165,842 91	18,626 49	4,460 00	....	....	....	....	3
2,453 92	90,448 42	4,545 15	9,100 00	....	4,360 00	1,619 00	4,465 49	4
2,099 88	83,940 49	7,294 45	5,750 00	....	4,850 00	4,800 00	5,592 50	5
1,043 74	71,164 43	7,060 71	17,370 00	....	16,318 67	25,000 00	1,256 03	6
14,780 78	243,579 35	16,819 37	5,100 00	....	....	....	....	7
3,511 16	237,324 93	24,576 26	6,775 00	....	66,395 00	16,455 00	19,100 22	8
3,515 96	220,401 20	30,969 79	5,200 00	300 00	28,121 66	21,771 25	18,467 70	9
2,717 21	250,487 83	20,929 97	9,880 00	....	19,149 50	32,047 16	121,162 20	10
2,594 27	226,111 85	16,588 35	2,600 00	....	....	2,361 90	16,090 00	11
5,858 02	312,148 19	33,207 13	10,950 00	....	....	11,400 00	9,830 94	12
2,756 44	181,132 39	19,844 55	5,175 00	5,000 00	19,000 00	8,888 01	12,212 49	13
1,765 32	92,456 89	1,177 69	5,700 00	....	30,670 00	42,948 25	7,994 45	14
2,368 73	201,096 72	6,339 98	3,800 00	....	12,490 00	170 00	8,074 60	15
1,219 90	213,333 99	15,233 55	3,300 00	....	23,965 00	16,910 11	11,865 69	16
728 74	123,732 98	12,334 60	2,500 00	....	42,711 70	6,154 00	9,264 54	17
4,976 77	84,442 18	9,321 19	1,800 00	9,100 00	....	9,523 10	9,880 40	18
674 53	63,045 92	4,221 39	1,000 00	....	....	....	....	19
1,508 37	92,164 91	15,380 09	12,225 00	25,000 00	23,078 00	48,783 00	8,455 75	20
250 70	72,087 56	2,448 64	3,025 00	....	36,000 00	15,110 00	13,944 11	21
1,158 58	95,104 33	2,239 61	7,100 00	....	11,320 00	52,661 32	20,975 79	22
3,049 29	214,028 71	17,963 12	6,750 00	....	18,531 68	138,228 51	33,816 05	23
1,926 51	141,663 00	8,091 53	13,650 00	....	15,750 00	31,360 76	14,321 46	24
1,351 49	81,640 16	8,528 41	9,400 00	34,368 00	....	....	....	25
1,503 12	99,618 40	6,807 91	16,825 00	....	800 00	400 00	1,791 00	26
4,063 62	64,762 35	6,244 87	14,700 00	....	25,112 50	....	15,042 50	27
1,011 10	85,565 35	4,541 58	5,100 00	....	2,200 00	40,400 00	21,119 58	28
955 31	90,475 07	2,723 09	11,926 21	400 00	....	14,300 00	4,100 00	29
1,205 24	121,824 44	14,366 65	31,250 00	....	13,013 00	14,599 98	36,261 22	30
312 29	57,978 90	1,011 65	1,000 00	....	....	....	....	31
894 50	47,005 22	689 55	300 00	....	....	....	....	32
390 96	47,803 94	2,773 20	2,693 00	....	....	....	26,695 32	33
537 16	51,716 62	2,278 50	4,600 00	....	....	....	....	34
442 54	37,699 16	3,119 86	3,100 00	....	....	....	....	35
1,284 97	105,214 67	4,437 52	12,775 00	10,400 00	4,450 00	....	4,876 66	36
1,362 20	60,198 34	9,649 39	5,200 00	....	....	....	3,593 20	37
717 75	66,156 56	5,570 48	5,220 00	1,560 00	....	....	7,600 00	38
1,457 66	111,865 72	6,029 21	6,150 00	....	20,992 00	15,022 40	7,875 07	39
1,276 77	67,289 38	4,616 56	8,025 00	....	....	....	....	40
435 83	26,305 98	1,959 45	3,000 00	....	....	....	....	41
1,380 89	145,825 06	4,816 47	14,350 00	....	....	....	....	42
851 69	29,638 87	4,663 09	2,650 00	....	....	....	638 61	43
623 59	20,950 94	1,587 27	591 00	....	20 00	....	1,875 00	44
9,297 69	47,704 79	3,772 56	8,571 63	....	....	....	....	45
184 50	1,972 14	265 17	....	....	....	....	75 00	46
*125,215 00	5,535,334 43	433,825 93	330,886 84	92,128 00	440,798 71	584,031 44	481,985 36	

* Including $14 for administration of justice in Nipissing.

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

TABLE NO. X.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	ASSETS.—*Continued.*					
		Uncollected taxes for 1886.	Other arrears of taxes (estimated).	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	104,964 36	10,713 52	18,193 52	....	10,328 77	177,080 23
2	Kent	50,066 12	10,071 97	12,903 44	7,062 92	11,906 44	103,667 31
3	Elgin	10,524 47	1,974 33	8,796 76	9,829 73	3,345 04	38,930 33
4	Norfolk	19,489 79	1,180 11	3,403 78	1,141 37	4,847 95	49,607 49
5	Haldimand	560 69	35 10	7,294 45	....	46 30	28,929 04
6	Welland	4,670 62	186 21	7,060 71	....	766 14	72,628 38
7	Lambton	40,879 61	20,100 88	11,675 33	5,144 04	5,565 36	88,465 22
8	Huron	17,810 79	138 07	13,950 70	10,625 56	4,650 49	155,900 83
9	Bruce	29,791 13	4,357 13	16,975 24	13,994 55	18,082 82	157,061 48
10	Grey	57,252 34	6,418 76	17,274 97	3,655 60	19,674 89	286,514 82
11	Simcoe	73,727 79	3,600 00	11,893 89	4,694 46	9,483 75	124,451 79
12	Middlesex	96,379 97	1,570 49	20,833 96	12,373 17	935 79	164,274 32
13	Oxford	6,640 42	18 49	7,295 97	12,548 58	....	76,778 96
14	Brant	5,342 50	....	1,177 69	....	....	93,832 89
15	Perth	23,322 08	622 31	6,339 98	....	2,904 00	57,722 97
16	Wellington	27,924 24	114 84	12,833 41	2,400 14	5,757 06	105,070 49
17	Waterloo	562 83	20 64	7,239 86	5,094 74	439 10	73,987 41
18	Dufferin	31,126 82	3,100 00	9,321 19	....	342 87	74,194 38
19	Lincoln	6,790 46	11 08	4,221 39	....	....	12,022 93
20	Wentworth	6,760 12	......	5,396 95	9,983 14	2,016 40	141,698 36
21	Halton	6,529 75	83 52	2,448 64	....	755 43	77,896 45
22	Peel	37 31	....	1,849 15	390 46	....	94,334 03
23	York	25,259 46	1,696 74	11,376 28	6,586 84	6,564 63	248,810 19
24	Ontario	8,740 12	123 60	7,298 60	792 93	11,154 84	103,192 31
25	Durham	7,441 25	93 28	7,278 03	1,250 38	540 00	60,370 94
26	Northumberland	15,338 04	112 05	6,807 91	....	3,966 00	46,043 00
27	Prince Edward	6,865 88	....	6,244 87	....	1,381 02	69,346 77
28	Lennox and Addington	22,475 96	622 56	4,541 58	....	2,270 94	98,730 62
29	Frontenac	22,514 19	2,322 00	2,723 09	....	4,884 31	63,169 80
30	Leeds and Grenville	7,482 98	388 07	13,885 65	481 00	321 96	117,683 86
31	Dundas	1,103 87	188 16	1,011 65	....	316 47	3,620 15
32	Stormont	9,450 56	323 33	689 55	....	86 00	10,849 44
33	Glengarry	22,106 31	70 11	2,773 20	....	2,050 80	56,388 74
34	Prescott	19,392 93	712 81	2,278 50	....	61 53	27,045 77
35	Russell	18,288 91	539 75	3,119 86	....	418 36	25,466 88
36	Carleton	45,377 48	1,450 90	1,437 52	....	108 83	83.876 39
37	Renfrew	14,466 57	1,179 45	6,538 07	3,111 32	429 41	34,518 02
38	Lanark	7,233 54	330 65	5,570 48	....	....	27.514 67
39	Victoria	57,271 60	6,675 27	2,548 20	3,481 01	1,281 54	121,297 09
40	Peterborough	20,993 97	2,174 19	4,616 56	....	128 00	35,937 72
41	Haliburton	10,044 14	277 05	1,664 14	295 31	112 67	15,393 31
42	Hastings	64,993 06	1,171 41	3,353 52	1,462 95	6,367 94	91,698 88
43	Muskoka	8,832 83	1,588 53	4,663 09	....	621 22	18,994 28
44	Parry Sound	6,330 92	1,303 83	1,587 27	....	214 43	11,922 45
45	Algoma	33,235 58	6,997 08	3,772 56	....	346 25	52,923 10
46	Nipissing	690 45	....	265 17	....	60 00	1,090 62
	Totals	1,077,084 81	94,658 27	317,426 33	116,399 60	145,535 75	3,680,935 11

FINANCIAL STATEMENT—TOWNSHIP MUNICIPALITIES.

and Liabilities for the Township Municipalities, etc.—*Continued.*

LIABILITIES.

County rates.	Local school rates.	Debentures outstanding for—		Coupons on debentures due and unpaid.	Loans for current expenditure and interest due on same.	Miscellaneous.	Total.	Number.
		Aid to railways.	All other objects.					
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
5,508 17	10,409 95	42,000 00	312,329 29		9,872 90	42,286 53	422,406 84	1
16,783 98	4,337 40		282,648 57		13,953 46	68,919 34	386,642 75	2
20,508 00	1,381 24		54,503 78		618 66	8,208 23	85,219 91	3
5,208 42	5,424 98	26,000 00	4,100 00		3,276 37		44,009 77	4
161 74			8,920 00		3,649 02		12,730 76	5
2,500 40	2,026 57		7,935 27		1,779 02		14,241 26	6
2,516 00	9,674 70	16,200 00	185,236 96	1,339 99	4,560 40	129,059 59	348,587 64	7
8,436 82	4,778 87	142,700 00	25,984 55	300 00	65 77	8,898 36	191,164 37	8
11,700 40	2,368 80	201,000 00	31,217 68	60 00	2,137 67	5,518 55	254,003 10	9
11,378 79	3,035 00	340,300 00	42,305 83	214 83	7,000 00	3,402 40	407,636 85	10
28,025 99	17,623 62	121,825 00	43,904 60		2,131 69	8,374 43	221,885 24	11
57.887 62	5,384 85	15,000 00	56,297 49		3,992 99	7,474 63	146,637 58	12
	793 26	23.559 00	21,304 43		9,032 18	464 00	55,143 87	13
		14,520 00	2,656 25		2,048 98	261 91	19,487 14	14
8,728 25	1,198 59	96,000 00	57,827 85	150 00	4,371 33	1,863 84	170,139 86	15
11,772 91	2,114 25	65,000 00	21,994 23	628 00	1,301 67	2,288 66	105,099 12	16
			17,992 54		4,976 00	140 00	23,108 54	17
12,834 89	10,262 97	49,976 04	73.975 22		2,635 63	22,389 62	172.074 37	18
2,551 88	1.007 19		2.772 62		300 00	200 00	6,831 69	19
	2,535 05		6,272 33		599 54	957 52	10,364 44	20
					2,020 68	500 00	2,520 68	21
		23,000 00	8,440 00				31,440 00	22
6,833 76	8,444 61	57,750 00	20,796 50		3,920 57	8,435 64	106,181 08	23
4,354 80	980 91	97,850 00	42.742 75		1,329 11	1,378 89	148,636 46	24
	421 00		13.922 58			823 00	15,166 58	25
	430 32	26,547 50	7,919 92		8,220 24	2,122 44	45,240 42	26
9,784 70	226 16		400 00		5,149 88	3,002 64	18,563 38	27
14,261 15	1,719 60	30,000 00	4,894 00		3,133 93	1,116 87	55,125 55	28
16,642 56	3,367 19		1,040 00		241 63	1,668 75	22,960 13	29
2,268 00	320 34	35.000 00	6,810 00		2,355 42	143 80	46,897 56	30
1,164 90		14,600 00			1,398 13	551 00	17,714 03	31
4,350 27	634 70	2,000 00	5,705 00		3,960 00	1,065 50	17,715 47	32
3,066 42	9,593 61	42,600 00	2,940 00	1,244 00	790 74	2,761 65	62,396 42	33
5,535 47	7,429 13		13,887 00		877 90	1,938 01	29,667 51	34
2,725 99	5,069 50		919 50		3,436 65	580 00	12,731 64	35
13,912 07	20,273 12		28,142 89	28 80	3,411 94	977 68	66.746 50	36
4,531 16	4,730 79	8,500 00	3,734 78	18 00	523 65	1,328 28	23,366 66	37
180 35	676 71		10.537 25		606 00	152 86	12,153 17	38
23,937 00	11,094 56	85,448 00	36,784 95		724 00	642 50	158,631 01	39
11,289 25	4,679 50	3,178 50	740 00		1,763 63	877 91	22,528 79	40
5,747 45	3,269 93		108 48		692 48	615 31	10,433 65	41
35,869 24	11,374 91	46,200 00	23,723 94		1,987 18	2,756 37	121,911 64	42
1,217 75	3,589 08		5,048 00		847 05	765 82	11,467 70	43
	3,949 02		7,948 80		630 60	159 31	12,687 73	44
	6,990 05	10,500 00	9,635 20		1,550 00	5,804 81	34,480 06	45
	178 32				100 00	215 32	493 64	46
374,176 46	193,800 35	1,636,645 04	1,517,001 03	3,983 62	127,974 09	351,091 97	4,204,672 56	

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

TABLE No. XI.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Town and

Number.	Counties.	Receipts.						
		Balance from 1886.	Taxes, municipal and school.		Licenses, various.	Interest on bank deposits and dividends from other investments.	Received from Government on acc't of—	
			Per collector.	Non-resident taxes.			Schools.	Other purposes (except loans).
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	8,494 95	104,119 81	1,434 70	5,450 41	2,815 35	2,606 46	7 30
2	Kent	2,640 60	97,287 71	572 82	1,822 76	2,863 79	2,204 00	....
3	Elgin	750 91	13,261 73	30 96	76 00	725 21	640 20	....
4	Norfolk	4,956 91	21,773 67	116 94	....	1,159 05	1,659 74	208 00
5	Haldimand	4,790 69	16,443 35	484 72	1,762 80	....	371 00	....
6	Welland	5,491 76	62,532 03	437 79	3,721 57	60	1,195 75	5 25
7	Lambton	9,710 86	95,955 39	355 63	1,326 95	260 90	2,012 00	....
8	Huron	13,380 36	72,133 30	2,033 04	444 00	461 39	2,694 50	59 66
9	Bruce	4,291 48	64,162 86	1,763 69	666 60	1,795 76	2,149 00	17 83
10	Grey	12,504 71	52,758 10	811 02	2,653 61	485 12	1,292 00	....
11	Simcoe	15,455 75	97,497 08	879 80	1,234 48	2,040 01	2,559 00	....
12	Middlesex	4,997 37	41,527 73	638 78	368 00	11 10	967 75	158 16
13	Oxford	3,093 54	82,479 91	397 20	847 00	7,266 63	2,051 00	....
14	Brant	663 57	21,156 10	....	119 00	56 70	368 00	....
15	Perth	422 88	45,745 05	204 06	3,306 04	....	2,400 86	....
16	Wellington	13,173 36	55,667 45	952 73	606 75	1,307 83	1,232 00	....
17	Waterloo	9,037 52	91,564 68	107 09	5,105 55	2,020 28	2,035 55	231 00
18	Dufferin	256 17	17,423 56	77 09	135 00	....	544 00	....
19	Lincoln	1,125 32	22,162 24	6 60	95 00	10 38	464 00	....
20	Wentworth	7,251 21	20,792 01	1 00	1,149 33	361 41	444 00	....
21	Halton	4,258 15	26,137 89	92 97	280 50	32 00	1,019 88	....
22	Peel	1,654 07	22,265 54	113 41	1,105 77	206 37	623 00	....
23	York	34,137 04	84,959 48	6,278 45	4,065 97	2,024 99	1,561 00	....
24	Ontario	3,682 73	66,242 72	773 88	125 00	....	2,910 88	....
25	Durham	16,191 93	56,558 53	....	930 41	883 75	738 00	....
26	Northumberland	7,217 33	51,492 97	61 53	888 34	47 35	1,059 00	....
27	Prince Edward	1,257 54	22,076 86	16 28	1,847 30	35 47	377 00	10 02
28	Lennox and Addington	1,379 94	26,497 29	....	564 05	120 00	170 00	1 37
29	Frontenac	101 65	3,998 56	105 39	....	....	131 00	....
30	Leeds and Grenville	8,682 34	77,632 34	16 39	1,708 15	37 00	1,718 00	....
31	Dundas	418 83	13,644 96	....	120 00	....	393 00	....
32	Stormont	....	22,106 36	10 00	1,159 00	24 95	405 00	12 69
33	Glengarry	477 66	2,541 35	....	5 00	....	49 50	....
34	Prescott	119 40	7,690 57	....	533 40	....	761 43	....
35	Russell	....	....	....	....	....	....	....
36	Carleton	8 18	1,315 69	....	....	....	47 00	....
37	Renfrew	5,192 57	36,580 34	53 13	1,033 60	1,986 51	1,097 91	....
38	Lanark	6,690 91	68,504 89	66 94	1,069 17	27 70	531 00	....
39	Victoria	1,433 40	46,294 67	1,368 22	522 52	99 42	896 00	....
40	Peterborough	5,490 37	60,348 80	246 85	2,026 87	5,714 03	1,251 00	600 00
41	Haliburton	....	....	....	....	....	....	....
42	Hastings	3,438 30	41,233 45	10 26	2,807 60	....	1,242 96	....
43	Muskoka	108 34	14,424 22	144 51	267 24	28 50	357 00	90 00
44	Parry Sound	....	16 00	....	....	....	....	....
45	Algoma	3,569 64	23,951 86	3,298 70	5,369 79	....	597 00	....
46	Nipissing	943 61	2,506 18	54 55	1,130 93	....	....	13 80
	Totals	*228,943 85	1,875,465 28	24,017 12	58,451 46	34,909 55	47,827 37	1,415 08

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* This amount is less by $121.46 than the balance on hand, December 31, 1886, as shown in Table XII. New Edinburgh was annexed to Ottawa in 1887 and the balance on hand of $121.46 was merged into miscellaneous receipts of that city in 1887.

FINANCIAL STATEMENT—TOWN. AND VILLAGE MUNICIPALITIES.

Village Municipalities in the Province of Ontario, grouped by counties, for the year ending Dec. 31, 1887.

RECEIPTS—*Continued.*

Fees, rent, tolls, fines, etc.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures.	Taken from sinking fund.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
3,359 84	....	58,228 45	72,109 76	....	31,684 00	290,311 03	1
9,195 54	5,000 00	235,241 00	35,825 30	....	2,212 03	394,865 55	2
298 65	3,055 78	35,028 36	5,700 00	....	2,060 68	62,628 48	3
293 50	139 95	146 12	....	....	1,503 60	31,957 48	4
211 30	....	8,920 43	....	....	273 17	33,257 46	5
1,628 38	200 00	16,483 32	8,520 00	....	4,061 95	104,278 40	6
1,574 75	....	64,368 05	55,175 77	4,148 34	10,835 23	245,723 87	7
2,018 07	900 00	35,212 90	16,618 19	4,475 76	4,011 44	154,442 61	8
1,818 58	1,412 60	13,263 43	17,661 44	1,100 00	2,218 74	112,322 01	9
2,674 88	....	22,132 90	....	9,271 20	1,021 39	105,604 93	10
2,475 31	362 42	52,333 75	46,105 77	7,147 43	3,820 66	231,911 46	11
1,133 43	700 00	37,440 96	4,450 00	....	298 53	92,691 81	12
3,824 90	....	174,700 00	39,670 00	800 00	14,205 74	329,335 92	13
658 64	....	4,000 00	....	....	4,053 74	31,075 75	14
898 85	....	80,737 90	3,717 00	....	1,322 54	138,755 18	15
1,750 46	684 75	22,877 75	8,572 25	....	1,722 30	108,547 63	16
4,239 58	500 00	68,295 24	9,323 50	....	3,613 20	196,073 19	17
922 76	950 00	15,128 95	2,000 00	....	1,107 45	38,544 98	18
1,188 98	....	5,778 31	60,144 45	....	67 24	91,042 52	19
861 50	6,000 00	....	....	....	438 79	37,299 25	20
1,084 36	....	2,070 30	3,887 53	....	1,500 91	40,364 49	21
351 50	2,182 18	9,543 28	1,800 00	....	2,496 21	42,341 33	22
8,743 76	700 00	137,073 73	180,221 66	30,960 91	7,934 66	498,661 65	23
1,949 89	....	60,617 87	20,500 20	....	1,948 28	158,751 45	24
6,168 34	8,200 00	47,738 92	....	....	406 29	137,816 17	25
12,024 15	....	15,283 30	....	19,000 00	545 55	107,619 52	26
602 91	....	8,497 54	....	....	1 33	34,722 25	27
957 14	....	4,569 92	....	....	2,714 73	36.974 44	28
2 00	....	....	....	....	67 55	4,406 15	29
11,936 26	660 00	29,465 67	9,000 00	....	1,173 50	142,029 65	30
313 81	....	500 00	35,031 35	....	355 96	50.777 91	31
1,538 47	....	9,645 18	....	....	87 34	34,988 99	32
9 00	....	1,746 00	....	....	10 00	4,838 51	33
22 50	....	....	....	....	630 43	9,757 73	34
....	....	....	....	....	....	....	35
2 00	....	....	....	....	....	1,372 87	36
938 95	600 00	5,187 25	57,769 00	....	4,628 23	115,067 49	37
1,485 80	80 00	41,685 13	3,500 00	....	965 10	124,606 64	38
1,177 83	....	18,000 00	....	....	3,326 54	73,118 60	39
10,999 31	....	8,296 81	4,400 00	....	1,995 20	101,369 24	40
....	....	....	....	....	....	....	41
1,936 64	....	26,070 44	29,365 50	....	1,642 98	107,748 13	42
425 10	100 00	3,685 00	....	....	1,154 47	20,784 38	43
331 75	....	1,470 25	....	....	....	1,818 00	44
834 90	....	22,499 47	17,000 00	....	192 02	77,313 38	45
166 00	....	138 50	....	....	....	4,953 57	46
105,030 27	32,427 68	1,404,102 38	749,068 67	76,903 64	†124,309 70	4,762,872 05	

† Including $23 received from Government by Middlesex on account of Administration of Justice.

NOTE.—All town municipalities separated from counties for municipal purposes are included in this and following table with the counties in which they are situated.

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

TABLE XI.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	Expenditure.				
		Taxes paid to county treasurer.	School boards on account of school rates.	Other payments on account of schools and education.	Roads, bridges, streets and parks.	Buildings and other property.
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	5,031 62	26,260 93	2,725 46	15,298 69	60,338 56
2	Kent	6,166 98	31,762 15	11,520 05	23,632 48	16,634 89
3	Elgin	1,444 00	4,981 81	6,439 39	15,606 03	625 70
4	Norfolk	1,923 91	9,018 90	1,663 74	4,581 03	....
5	Haldimand	1,336 80	7,711 11	371 00	5,546 82	....
6	Welland	5,718 64	18,511 54	1,278 86	17,449 53	13,488 83
7	Lambton	4,953 17	27,550 62	9,333 25	19,002 92	12,148 61
8	Huron	5,173 37	25,801 42	14,094 71	8,419 14	13,078 86
9	Bruce	8,264 32	22,614 61	2,238 00	11,636 23	1,210 15
10	Grey	3,478 30	13,625 36	1,292 00	9,534 47	2,145 34
11	Simcoe	8,459 28	33,640 79	5,081 84	17,447 04	25,786 25
12	Middlesex	4,057 10	15,743 11	1,203 21	8,656 86	1,023 10
13	Oxford	11,491 20	26,106 38	3,341 17	38,368 06	155 00
14	Brant	1,217 27	5,843 74	368 00	2,870 59	781 15
15	Perth	1,589 42	15,029 80	2,400 86	7,068 45	3,600 00
16	Wellington	5,119 43	20,901 78	12,242 27	7,516 12	1,633 31
17	Waterloo	4,145 00	34,748 22	3,230 94	23,169 53	8,903 43
18	Dufferin	1,336 25	6,650 00	2,544 00	1,441 53	....
19	Lincoln	3,339 44	8,312 12	800 00	4,579 99	....
20	Wentworth	1,185 20	9,003 50	444 00	3,139 40	....
21	Halton	1,848 96	10,963 58	1,619 88	4,248 64	76 60
22	Peel	239 04	8,355 56	623 00	2,589 24	....
23	York	3,328 59	44,869 06	2,870 50	148,306 85	17,992 31
24	Ontario	3,268 60	24,640 31	5,362 65	9,603 05	7,581 46
25	Durham	1,144 00	18,603 00	738 00	9,367 10	961 18
26	Northumberland	683 14	13,491 00	1,209 00	12,365 58	2,202 67
27	Prince Edward	1,639 00	8,085 50	377 00	2,418 18	104 52
28	Lennox and Addington	3,726 97	8,160 50	515 37	3,765 47	59 08
29	Frontenac	448 06	2,486 09	143 10	378 38	....
30	Leeds aud Grenville	4,045 00	25,780 01	10,064 92	16,600 87	7,983 45
31	Dundas	818 25	6,739 00	6,674 00	3,140 04	59 50
32	Stormont	....	8,824 56	417 69	3,322 81	381 82
33	Glengarry	133 93	1,026 58	99 00	1,776 11	....
34	Prescott	893 85	3,642 16	1,560 76	1,774 63	55 50
35	Russell	....	....	....	....	....
36	Carleton	....	819 00	47 00	290 36	....
37	Renfrew	3,868 08	18,609 43	1,097 91	38,627 84	....
38	Lauark	3,799 04	27,590 54	531 00	32,454 27	982 80
39	Victoria	4,199 23	16,430 68	1,165 00	5,047 44	12 17
40	Peterborough	1,215 88	18,396 59	1,820 40	20,035 16	128 37
41	Haliburton	....	....	....	....	....
42	Hastings	3,753 78	16,718 83	1,919 95	6,724 92	1,488 55
43	Muskoka	979 27	4,773 00	357 00	2,094 05	202 80
44	Parry Sound	....	....	3 50	712 77	55 65
45	Algoma	....	5,483 97	597 00	18,874 31	110 95
46	Nipissing	....	1,470 80	....	1,719 02	63 50
	Totals	125,463 37	659,777 64	122,426 38	591,202 00	202,056 06

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

and Liabilities for the Town and Village Municipalities, etc.—*Continued.*

EXPENDITURE.—*Continued.*

Expenses of municipal government.									
Election of members of council.	Allowances, salaries, and commissions.	Law costs.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Lighting of streets.	Water supply and fire protection.	Other expenses of municipal government.	Administration of Justice, including police service.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
557 24	5,647 15	734 86	869 13	2,861 45	2,513 71	10,896 60	513 08	6,252 64	1
292 55	6,521 04	1,566 88	1,750 42	2,034 61	1,979 11	8,650 84	1,054 59	4,617 02	2
178 33	1,236 88	209 55	443 45	112 00	395 00	1,386 17	116 97	......	3
97 35	1,200 63	178 75	235 78	102 49	616 20	423 07	50 00	368 57	4
46 00	1,239 09	97 19	366 01	128 18	404 05	1,550 62	28 84	......	5
306 57	4,450 50	446 56	681 40	458 74	2,249 25	6,782 19	458 52	2,093 25	6
181 00	7,135 84	866 62	1,166 36	281 11	1,315 00	10,589 95	137 30	1,170 17	7
250 95	7,312 36	332 94	976 88	528 87	34 25	2,436 93	190 13	44 50	8
183 77	4,670 68	1,381 79	1,281 97	494 41	445 00	841 29	626 00	......	9
165 69	4,291 99	140 06	969 11	428 25	1,814 85	3,049 19	898 39	2,727 59	10
259 16	7,092 77	228 76	1,431 91	876 65	1,375 18	3,230 76	154 69	1,015 30	11
124 34	3,889 94	694 09	539 01	315 77	386 67	3,040 34	395 80	75 00	12
404 47	5,819 42	245 75	1,372 25	704 07	2,064 48	12,852 36	511 22	3,241 24	13
28 50	1,474 15	20 00	235 53	80 00	891 19	1,675 85	384 05	449 50	14
135 00	2,479 36	418 13	779 54	396 04	325 00	2,004 81	412 13	1,595 16	15
177 56	3,900 16	539 44	742 33	648 45	469 01	978 79	115 55	453 15	16
243 25	8,211 48	579 65	1,451 71	472 97	2,471 19	4,802 94	263 45	965 06	17
18 00	1,060 74	4 00	379 02	226 23	226 39	2,586 48	74 30	300 00	18
101 53	2,000 15	219 31	413 75	179 60	226 39	1,482 65	500 10	502 50	19
62 50	2,762 46	443 32	300 89	629 91	900 42	981 96	......	......	20
39 40	2,113 82	420 00	443 03	374 00	627 15	2,606 07	......	300 00	21
120 75	2,707 06	2 00	270 79	107 31	1,270 40	1,490 81	8 00	......	22
202 00	5,666 78	1,226 59	1,504 88	1,639 53	4,999 95	26,199 49	326 91	2,083 38	23
336 12	4,390 88	128 89	1,011 76	1,204 02	591 67	5,171 56	697 87	315 80	24
92 70	5,535 92	145 50	852 19	446 39	1,760 77	2,884 22	252 88	2,766 50	25
95 00	3,354 72	45 13	373 72	1,109 57	964 92	1,172 36	375 27	3,390 67	26
35 00	860 32	23 97	134 34	54 45	380 60	120 53	41 90	939 00	27
52 00	2,963 15	297 27	198 82	97 18	1,372 51	15 35	......	......	28
10 50	290 84	......	120 05	18 58	15 00	......	......	30 00	29
150 00	5,893 70	12 81	1,141 99	1,507 03	3,222 29	12,355 59	156 77	6,473 45	30
35 93	107 14	29 90	232 45	......	......	27,823 00	......	......	31
......	3,620 01	30 50	285 41	159 99	635 38	2,051 08	......	......	32
8 00	191 90	......	31 27	......	......	......	20 45	......	33
......	457 05	8 48	42 88	9 80	......	......	45 75	68 00	34
......	......	......	......	......	......	......	......	......	35
7 00	106 00	......	49 22	......	......	......	......	......	36
188 45	1,970 42	41 00	489 65	1,339 39	430 50	953 85	171 07	381 75	37
86 25	3,854 34	1,067 83	869 73	1,581 47	2,029 01	2,375 61	289 25	811 70	38
240 00	2,951 19	981 51	1,106 58	392 67	712 24	4,080 87	62 65	2,149 11	39
209 43	2,776 81	84 11	568 50	1,100 86	3,315 91	7,263 66	196 00	8,206 81	40
......	......	......	......	......	......	......	......	......	41
77 25	2,890 37	675 00	620 29	179 89	1,476 00	2,222 28	673 75	2,610 89	42
66 55	1,019 23	10 00	510 31	285 84	......	648 54	23 30	524 52	43
34 25	160 00	78 45	125 35	......	......	......	60	99 02	44
142 65	2,056 26	150 00	331 59	199 74	......	3,865 28	287 21	1,822 54	45
4 00	348 15	7 00	49 39	41 53	......	......	56 80	......	46
6,046 99	138,592 85	14,813 59	27,750 64	23,809 04	44,906 64	183,543 94	10,571 54	58,843 79	

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

TABLE No. XI.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	EXPENDITURE.—*Continued.*						
					Sinking fund investments.			
		Debentures redeemed.	Refund of money borrowed for current expenditure.	Interest on loans and advances.	Mortgages.	Debentures of the municipality.	Loans and deposits.	Support of the poor and other charities.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	30,673 29	61,951 79	28,932 95	....	....	10,428 45	2,597 78
2	Kent	15,311 81	226,711 00	15,674 67	....	....	....	3,325 16
3	Elgin	2.716 95	20,457 46	2,252 66	....	....	....	109 88
4	Norfolk	647 00	....	3,637 74	....	....	....	822 43
5	Haldimand	1,155 00	5,250 00	1,549 15	....	....	....	322 20
6	Welland	4,923 15	9,529 19	4,346 49	....	....	600 00	1,380 18
7	Lambton	26,581 03	63,771 16	22,523 33	....	*480 00	....	1,405 72
8	Huron	2,918 00	35,448 13	11,497 49	....	5,041 66	2,619 00	1,529 17
9	Bruce	1,983 64	14,007 86	7,375 21	2,601 80	600 00	4,863 41	782 30
10	Grey	1,395 00	8,532 90	10,413 34	....	....	12,884 72	590 91
11	Simcoe	18,201 00	55,768 75	16,435 76	....	....	4,871 50	2,485 28
12	Middlesex	5,239 06	38,328 40	5,027 30	....	....	....	308 62
13	Oxford	1,800 00	146,301 65	21,323 57	23,097 84	400 00	2,000 00	1,855 42
14	Brant	943 00	4,000 00	2,696 93	....	....	765 00	395 20
15	Perth	3,595 53	83,312 90	9,170 77	....	....	....	1,070 42
16	Wellington	2,404 74	19,840 85	12,213 52	300 00	....	921 01	206 97
17	Waterloo	7,706 75	51,281 74	12,821 31	....	500 00	4,718 60	218 48
18	Dufferin	1,100 00	13,013 00	5,077 88	....	....	271 33	134 91
19	Lincoln	2,274 03	5,121 96	848 22	....	....	58,126 92	115 61
20	Wentworth	1,992 50	....	3,470 50	....	....	6,217 96	614 62
21	Halton	1,771 00	1,551 19	3,357 40	....	....	2,435 69	497 32
22	Peel	5,237 95	3,575 25	8,798 00	....	....	2,200 00	661 33
23	York	2,324 01	114,970 90	29,303 43	....	....	69,923 07	636 11
24	Ontario	7,191 21	58,559 85	13,313 79	....	....	3,920 70	1,443 08
25	Durham	27,589 03	47,996 49	11,247 40	....	....	....	1.385 44
26	Northumberland	28,071 10	10,077 26	16,141 31	....	....	2,173 00	643 68
27	Prince Edward	1,089 46	15,550 00	1,473 38	....	....	....	990 10
28	Lennox & Add	800 00	4,569 92	4,026 32	....	....	....	676 39
29	Frontenac	....	....	24 00	....	....	....	....
30	Leeds & Grenville	5,755 00	18,000 00	7,548 38	....	....	2,613 00	1,925 98
31	Dundas	2,980 94	....	....	....	....	....	144 23
32	Stormont	5,514 00	2,873 27	4,645 03	....	....	840 00	142 52
33	Glengarry	....	900 00	172 99	....	....	....	13 50
34	Prescott	....	....	372 00	....	....	290 25	3 72
35	Russell	....	....	....	....	....	....	....
36	Carleton	....	....	....	....	....	....	15 00
37	Renfrew	16,011 00	15,643 62	5,975 02	....	....	....	65 07
38	Lanark	6,783 12	24,743 72	6,493 85	....	....	....	716 44
39	Victoria	1,315 32	16,500 00	10,501 54	....	....	200 00	569 81
40	Peterborough	3,820 00	6,192 57	10,922 47	....	3,200 00	983 75	4,255 61
41	Haliburton	....	....	....	....	....	....	....
42	Hastings	....	53,649 47	4,548 72	....	....	1,323 33	2,175 24
43	Muskoka	772 09	4,701 60	1,590 10	....	....	....	310 01
44	Parry Sound	....	....	....	....	....	....	100 00
45	Algoma	....	28,887 08	7,402 80	....	....	....	254 00
46	Nipissing	....	....	150 00	....	....	500 00	16 60
	Totals	250,586 71	1,291,570 93	345,296 72	25,999 64	10,221 66	196,690 69	37,912 44

* Debentures of *other* municipalities.

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

and Liabilities for the Town and Village Municipalities, etc.—*Continued.*

EXPENDITURE.—*Continued.*			Balance December 31, 1887.	ASSETS.					
Board of Health.	Miscellaneous.	Total.		Land, buildings, furniture, etc.	Stock in public works.	Mortgages.	Debentures.	Other investments.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
605 06	6,897 82	282,588 26	7,722 77	147,858 00	172,057 00	9,065 00	881 69	31,938 41	1
633 45	8,192 33	388,032 03	6,833 52	151,197 33	29,275 52	24,814 05	....	6,515 06	2
8 00	2,910 06	61,630 29	998 19	39,580 59	....	11,253 88	....	....	3
94 05	2,832 81	28,494 45	3,463 03	43,800 00	....	25,033 00	....	....	4
120 00	2,890 57	30,112 63	3,144 83	17,184 00	....	....	....	....	5
754 88	4,207 08	100,115 35	4,163 05	121,130 00	36,000 00	....	....	12,138 72	6
247 85	26,543 15	237,384 16	8,339 71	121,024 46	32,000 00	....	1,418 00	2,358 49	7
52 25	5,184 61	142,965 62	11,476 99	114,010 00	5,700 00	22,100 00	6,000 00	7,505 01	8
205 76	19,887 04	108,195 24	4,126 77	65,790 00	1,700 00	26,513 50	13,400 00	15,531 45	9
313 00	12,747 15	91,437 61	14,167 32	87,700 00	....	....	....	15,175 72	10
66 50	14,509 67	218,418 84	13,492 62	192,895 95	42,000 00	2,000 00	23,113 55	10,508 20	11
335 74	1,147 87	90,531 33	2,160 48	77,050 00	....	....	....	4,000 00	12
85 87	20,060 30	323,601 72	5,734 20	161,897 54	84,470 53	52,469 04	40,745 93	31,900 25	13
25 50	3,852 59	28,997 74	2,078 01	40,115 46	....	....	....	2,900 00	14
58 25	2,344 23	137,785 80	969 38	97,675 00	....	....	....	....	15
48 00	4,144 22	95,516 66	13,030 97	84,415 00	....	19,950 00	6,400 00	3,575 16	16
421 73	14,911 55	186,238 98	9,834 21	209,444 97	....	30,499 34	500 00	13,324 13	17
20 00	1,880 35	38,344 41	200 57	43,997 71	....	7,050 00	....	556 92	18
84 25	476 15	89,704 67	1,337 85	35,845 00	....	....	....	58,910 17	19
191 75	1,457 31	33,798 20	3,501 05	29,975 20	36,500 00	....	3,000 00	3,542 56	20
103 60	1,503 31	36,900 64	3,463 85	38,130 72	10,000 00	2,000 00	7,500 00	3,435 69	21
109 07	663 25	39,028 81	3,312 52	31,615 00	75,000 00	68,000 00	....	10,818 00	22
539 28	1,356 22	480,269 84	18,391 81	69,213 35	335,202 74	4,700 00	4,450 85	70,777 07	23
44 52	2,566 82	151,344 61	7,406 84	136,735 09	24,487 00	....	....	3,920 70	24
84 00	1,958 79	135,811 50	2,004 67	89,198 85	34,782 00	....	....	....	25
18 78	1,464 70	99,422 58	8,196 94	182,230 00	20,000 00	....	....	....	26
20 84	3 18	34,341 27	380 98	32,800 00	....	....	....	1,600 00	27
80 25	799 75	32,176 30	4,798 14	36,000 00	....	....	2,000 00	....	28
....	227 39	4,191 99	214 16	3,000 00	....	....	....	....	29
290 75	2,776 21	134,297 20	7,732 45	172,384 26	....	....	....	12,934 00	30
20 00	30 40	48,834 78	1,943 13	23,000 00	....	....	....	....	31
155 89	1,089 03	34,988 99	....	59,000 00	....	....	....	3,045 00	32
13 45	398 19	4,785 37	53 14	275 00	....	....	....	....	33
....	62 38	9,287 21	470 52	12,000 00	5,000 00	....	....	3,081 67	34
....	....	....	....	....	....	....	....	....	35
....	....	1,333 58	39 29	750 00	....	....	....	....	36
116 36	711 52	106,691 93	8,375 56	26,151 87	....	....	....	41,200 00	37
40 00	1,788 45	118,888 42	5,718 22	173,500 00	18,481 34	....	....	....	38
241 48	1,559 41	70,418 90	2,699 70	77,730 00	10,000 00	....	....	404 00	39
299 50	3,468 66	98,461 05	2,908 19	239,500 00	57,200 00	....	44,200 00	8,659 82	40
....	....	....	....	....	....	....	....	....	41
100 00	2,179 78	105,918 29	1,829 84	64,650 00	....	....	....	10,081 20	42
157 99	403 30	19,429 50	1,354 88	23,875 00	....	600 00	....	....	43
13 34	219 07	1,602 00	216 00	262 40	....	....	....	....	44
253 80	6,494 54	77,213 72	99 66	11,902 74	....	....	....	....	45
15 75	59 85	4,502 39	451 18	3,000 00	....	....	....	800 00	46
7,090 54	188,861 06	4,564,034 86	198,837 19	3,389,490 49	1,029,856 13	306,047 81	153,610 02	390,537 40	

FINANCIAL STATEMENT--TOWN AND VILLAGE MUNICIPALITIES.

TABLE No. XI.—Summary statement of Receipts, Expenditure Assets

Number.	Counties.	ASSETS—*Continued.*					
		Uncollected taxes for 1887.	Other arrears of taxes (estimated.)	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	51,425 57	5,814 86	7,722 77	....	17,937 19	444,700 49
2	Kent	79,478 77	9,556 21	3,703 20	3,130 32	14,968 91	322,639 37
3	Elgin	1,688 00	23 98	326 30	671 89	9,375 21	62,919 85
4	Norfolk	1,152 22	395 92	251 68	3,211 35	....	73,844 17
5	Haldimand	2,354 88	418 85	1,376 95	1,767 88	50 00	23,152 56
6	Welland	6.945 38	1,444 30	2,197 80	1,965 25	14,436 38	196,257 83
7	Lambton	47,981 67	846 27	4,128 50	4,211 21	3,188 90	217,157 50
8	Huron	6,234 30	2,650 86	5,207 50	6.269 49	5,218 00	180,895 16
9	Bruce	24,503 25	3,613 42	3,869 47	257 30	142 25	155,320 64
10	Grey	34,273 13	3,029 69	3,686 38	10,480 94	7,539 36	161,885 22
11	Simcoe	27,349 43	1,603 68	4,758 89	8,733 73	11,522 83	324,486 26
12	Middlesex	16,171 76	698 80	2,160 48	....	3,644 74	103,725 78
13	Oxford	9,284 56	1,018 75	5,517 22	216 98	52,442 66	439,963 46
14	Brant	434 81	239 99	....	2,078 01	222 90	45,991 17
15	Perth	8,852 53	564 39	969 38	....	24,758 00	132,819 30
16	Wellington	9,127 52	517 93	4,316 77	8,714 20	5,851 31	142,867 89
17	Waterloo	10,464 63	44 40	5,581 45	4,252 76	12,735 23	286,846 91
18	Dufferin	3,388 96	402 41	200 57	....	5,411 07	61,007 64
19	Lincoln	2,656 50	57 93	1,337 85	....	1,118 55	99,926 00
20	Wentworth	5,851 88	1,351 80	2,224 09	1,276 96	1,345 38	85,067 87
21	Halton	10,656 65	1,344 20	197 70	3,266 15	4,410 69	80,941 80
22	Peel	6,309 94	212 32	192 71	3,119 81	2,119 20	197,386 98
23	York	17,227 86	5,973 06	2,200 37	16,191 44	95,493 22	621,429 96
24	Ontario	20,303 88	1,460 21	3,001 96	4,404 88	20,500 49	214,814 21
25	Durham	3,425 74	2,140 01	1,272 36	732 31	2,413 35	133,964 62
26	Northumberland	9,752 18	....	584 57	7,612 37	10,860 00	231,039 12
27	Prince Edward	3,060 92	344 00	....	380 98	....	37,585 90
28	Lennox and Addington	8,579 70	....	528 65	4,269 49	4,050 00	55,427 84
29	Frontenac	1,306 52	100 66	214 16	....	80 61	4,701 95
30	Leeds and Grenville	28,560 65	2,482 00	7,732 45	....	21,853 80	245,947 16
31	Dundas	45 00	....	1,943 13	....	3,000 00	27,988 13
32	Stormont	424 57	....	....	....	6,176 00	68,645 57
33	Glengarry	3,012 72	28 33	53 14	....	....	3,369 19
34	Prescott	2,475 01	195 38	470 52	....	5 58	23,228 16
35	Russell	....	....	....	....	....	....
36	Carleton	1,068 00	451 72	39 29	....	....	2,309 01
37	Renfrew	27,611 04	88 55	3,649 05	4,726 51	17,734 33	121,161 35
38	Lanark	1,315 15	200 00	5,718 22	....	12,000 00	211,214 71
39	Victoria	19,236 14	1,748 73	1,792 31	907 39	1,758 46	113,577 03
40	Peterborough	7,917 35	....	1,309 55	1,598 64	7,527 50	367,912 86
41	Haliburton	....	....	....	....	....	....
42	Hastings	7,666 00	1,700 00	1,829 84	....	3,543 87	89,470 91
43	Muskoka	4,227 18	685 55	1,354 88	....	6,832 00	37,574 61
44	Parry Sound	5,235 05	....	216 00	....	216 40	5,929 85
45	Algoma	974 21	47,872 90	99 66	....	17,128 76	77,978 27
46	Nipissing	204 85	384 39	451 18	....	1,011 39	5,851 81
	Totals	540,216 06	101,706 45	94,388 95	104,448 24	430,624 52	6,540,926 07

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

and Liabilities for the Town and Village Municipalities, etc.—*Continued.*

Liabilities.								
		Debentures outstanding for—						
County rates.	Local school rates.	Aid to Railways.	All other objects.	Coupons on debentures due and unpaid.	Loans for current expenditure and interest on same.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1,318 61	5,517 77	23,656 04	471,652 29	370 80	41,583 61	8,670 60	552,769 72	1
21,429 22	7,281 50	106,365 44	254,316 69	....	83,673 65	1,622 70	474,689 20	2
1,030 88	....	....	40,318 98	....	16,455 36	109 88	57,915 10	3
....	....	15,000 00	43,182 00	....	146 12	4,020 00	62,348 12	4
285 00	600 00	12,000 00	8,325 00	....	5,300 43	809 86	27,320 29	5
236 38	4,421 37	....	72,076 74	799 00	8,385 04	51 68	85,970 21	6
1,291 22	13,292 00	32,596 00	256,635 32	1,004 73	23,126 37	14,242 47	342,188 11	7
2,201 91	1,989 01	57,132 00	141,113 44	701 00	2,449 12	4,110 19	209,696 67	8
....	7,200 00	25,515 00	116,684 77	1,254 00	7,036 98	16,626 79	174,317 54	9
1,473 66	1,170 06	56,000 00	108,205 00	....	17,100 00	14,931 19	198,879 91	10
4,606 78	2,393 33	44,100 00	232,983 00	937 50	4,781 23	15,856 02	305,657 86	11
3,548 91	377 00	....	70,475 38	....	12,245 25	766 69	87,413 23	12
3,039 00	7,149 66	110,740 00	208,656 14	3,306 08	35,750 00	51,084 60	419,725 48	13
....	....	....	42,780 00	....	....	311 17	43,091 17	14
1,935 00	764 17	60,000 00	89,295 76	2,475 00	13,400 00	2,675 33	170,545 26	15
1,702 01	6,372 72	111,000 00	91,435 16	....	6,032 00	6,302 43	222,844 32	16
1,278 00	3,233 29	13,973 45	172,041 45	317 00	26,026 04	3,699 13	220,568 36	17
978 50	2,055 00	29,500 00	54,225 00	....	3,139 35	5,695 55	95,593 40	18
413 38	....	....	73,421 50	....	2,195 89	100 42	76,131 19	19
....	....	....	64,946 25	....	....	6,392 99	71,339 24	20
150 56	424 00	34,300 00	35,661 53	140 00	2,154 11	14 47	72,844 67	21
777 86	2,379 05	20,500 00	126,213 66	45 00	6,693 28	1,903 93	158,512 78	22
1,899 17	917 00	....	524,290 54	....	137,130 78	4,784 17	669,021 66	23
1,150 60	392 21	52,500 00	151,383 49	....	16,858 02	16,861 44	239,145 76	24
214 00	....	....	177,634 91	....	11,307 32	4,922 74	194,078 97	25
....	2,886 26	5,201 10	239,762 30	....	7,027 10	25,709 00	280,585 76	26
1,400 00	3,201 00	13,969 58	2,500 00	52 50	197 54	....	21,320 62	27
....	50 00	36,500 00	30,400 00	210 00	....	....	67,160 00	28
459 99	738 06	....	....	....	419 00	147 61	1,764 66	29
1,025 00	2,075 00	81,700 00	74,660 00	509 00	21,147 33	8,513 61	189,629 ·94	30
....	....	....	58,353 46	....	900 00	....	59,253 46	31
1,019 79	....	....	75,279 00	....	9,772 73	....	86,071 52	32
155 69	959 37	....	902 00	....	1,595 95	1,882 29	5,495 30	33
240 97	1,509 85	....	6,200 00	....	....	657 42	8,608 24	34
....	....	....	....	....	....	....	....	35
380 00	776 75	....	....	....	....	....	1,156 75	36
2,463 92	13,246 77	72,000 00	77,389 00	....	700 00	300 00	166,099 69	37
....	....	40,300 00	70,356 88	....	20,500 00	....	131,156 88	38
4,450 00	8,963 67	111,897 24	42,200 00	....	10,500 00	3,080 02	181,090 93	39
948 48	390 51	....	189,490 00	765 00	5,027 12	3,894 81	200,515 92	40
....	....	....	....	....	....	....	....	41
2,284 50	....	20,000 00	76,265 00	....	13,583 22	5,720 00	117,852 72	42
....	1,609 00	....	25,436 56	....	400 00	2,504 11	29,949 67	43
....	2,300 00	....	....	....	1,500 00	4,733 01	8,533 01	44
....	2,484 48	31,000 00	77,106 28	2,245 00	19,223 49	10,029 21	142,088 46	45
....	661 09	....	2,500 00	....	438 50	245 52	3,845 11	46
65,788 99	109,780 95	1,217,445 85	4,676,754 48	15,131 61	595,901 93	253,983 05	6,934,786 86	

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

TABLE No. XII.—Summary statement of Receipts, Expenditure, Assets and Liabilities for the Town and

Number.	Counties.	Receipts.						
			Taxes, municipal and school.				Received from Government on acc't of—	
		Balance from 1885.	Per collector.	Non-resident taxes.	Licenses, various.	Interest on bank deposits and dividends from other investments.	Schools.	Other purposes, except loans.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	5,473 04	79,118 97	673 89	5,324 31	388 10	2,487 23	37 62
2	Kent	3,343 12	82,107 96	542 67	1,057 53	3,371 82	2,099 00	42 88
3	Elgin	1,362 82	12,814 61	....	331 41	733 89	580 38	18 91
4	Norfolk	3,286 28	21,190 71	149 27	40 00	731 52	1,612 46	313 40
5	Haldimand	2,144 81	16,322 64	6 25	1,532 29	....	327 00	9 10
6	Welland	8,656 20	59,889 49	596 30	3,925 52	....	1,203 29	16 50
7	Lambton	17,965 89	91,484 87	887 88	1,035 65	145 61	2,204 00	23 83
8	Huron	7,643 95	75,205 71	2,370 99	635 25	637 60	3,097 74	516 04
9	Bruce	7,646 24	59,181 19	1,331 19	517 25	753 81	1,773 00	1,134 89
10	Grey	4,158 31	52,010 33	822 60	2,767 33	770 45	1,128 44	927 59
11	Simcoe	10,233 85	103,140 40	935 71	1,061 40	2,101 41	2,757 00	25 66
12	Middlesex	3,632 15	44,287 84	653 01	557 24	1,005 00	2,985 11	24 18
13	Oxford	5,789 47	81,250 32	248 28	801 00	3,695 61	1,851 00	3 63
14	Brant	1,256 66	19,679 58	....	172 03	....	376 00	9 03
15	Perth	2,299 00	51,976 57	171 83	3,454 05	....	769 81	....
16	Wellington	12,300 81	56,621 87	620 92	702 21	947 91	1,254 00	28 34
17	Waterloo	6,262 77	73,408 52	76 28	4,324 62	1,523 16	2,434 85	758 31
18	Dufferin	490 29	17,082 57	154 83	131 00	....	557 00	....
19	Lincoln	738 48	22,156 74	143 58	138 30	11 64	512 00	3 90
20	Wentworth	932 17	33,996 44	66 27	1,265 80	186 93	436 00	....
21	Halton	2,731 26	25,544 25	197 95	293 00	830 96	1,580 48	6 59
22	Peel	5,462 54	21,499 25	39 08	1,266 80	143 25	632 00	11 44
23	York	9,298 53	66,645 43	8,807 95	3,241 71	1,181 41	1,636 80	11 94
24	Ontario	7,981 82	62,562 62	854 06	389 06	101 11	2,968 13	14 35
25	Durham	3,656 15	57,344 81	....	1,518 86	1,281 39	750 53	2 13
26	Northumberland	6,208 39	52,286 19	83 45	1,288 86	719 80	1,049 00	10 55
27	Prince Edward	1,139 15	15,218 34	58 84	1,814 88	32 02	389 00	1 55
28	Lennox and Addington	1,765 27	21,601 09	30 00	551 70	120 00	164 00	17 23
29	Frontenac	176 44	3,738 46	100 00	17 56	....	150 00	83
30	Leeds and Grenville	7,807 93	85,540 37	23 00	1,729 14	63 70	2,369 26	33 05
31	Dundas	454 67	11,519 63	....	143 00	....	374 00	4 48
32	Stormont	....	24,406 42	....	1,054 35	....	337 00	....
33	Glengarry	714 29	1,648 99	....	15 00	....	17 00	....
34	Prescott	9 82	5,690 58	2 88	152 88	....	777 98	4 74
35	Russell	....	....	....	....	....	....	....
36	Carleton	6,721 45	8,239 15	....	41 24	24 50	208 00	3 65
37	Renfrew	5,566 84	29,568 71	2 97	1,099 50	1,846 00	1,063 15	3 52
38	Lanark	6,603 41	57,830 10	135 03	856 38	....	775 63	16 90
39	Victoria	3,001 42	45,558 80	1,301 02	429 92	87 07	856 00	28 69
40	Peterborough	2,395 76	69,074 54	307 43	1,881 14	5,433 57	1,111 00	8 74
41	Haliburton	....	....	....	....	....	....	....
42	Hastings	2,618 07	28,930 10	....	2,745 57	....	550 00	16 10
43	Muskoka	406 19	12,088 43	324 91	171 08	32 00	337 00	....
44	Parry Sound	....	....	....	....	....	....	....
45	Algoma	25 77	5,390 70	1,337 41	5,456 18	....	503 00	7 75
46	Nipissing	424 74	2,468 25	79 01	1,109 12	....	....	1 76
	Totals	180,786 22	1,767,322 54	24,136 74	57,041 12	28,901 24	49,044 27	4,099 80

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*Including $118.61 received from Government on account of Administration

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

Village Municipalities in the Province of Ontario, grouped by counties, for the year ending Dec. 31, 1886.

RECEIPTS—*Continued.*							
Fees, rents, tolls, fines, etc.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures.	Taken from sinking fund.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
23,766 40	1,295 00	55,584 75	53,282 07	....	15,937 06	243,368 44	1
5,833 52	1,146 00	170,624 60	15,466 44	....	2,804 31	288,439 85	2
274 75	609 80	11,309 46	13,204 90	....	1,610 13	42,842 06	3
528 90	352 00	7,000 00	6,325 00	....	1,181 09	42,710 63	4
152 00	....	1,700 00	5,400 00	....	2,364 05	29,958 14	5
1,158 16	52 65	12,413 97	8,905 26	....	9,270 25	106,087 59	6
1,530 12	....	71,189 49	37,823 00	3,376 21	15,842 25	243,508 80	7
2,847 34	....	32,990 45	13,284 82	....	1,978 56	141,208 45	8
1,667 75	3,567 50	11,177 76	8,227 00	2,426 48	4,156 78	103,560 84	9
3,819 75	....	8,300 00	5,397 42	3,128 40	958 06	84,188 68	10
2,537 09	2,374 60	35,736 25	5,500 00	6,817 78	4,518 94	177,740 09	11
1,620 05	750 00	47,994 34	15,057 47	....	1,172 57	119,738 96	12
3,359 76	28,642 10	84,574 57	86,296 05	17,335 93	7,321 06	321,168 78	13
419 32	....	5,000 00	....	....	2,898 73	29,811 35	14
959 90	....	76,486 20	2,575 00	....	826 17	139,518 53	15
1,623 92	1,502 94	17,574 27	29,329 11	500 00	2,793 75	125,800 05	16
3,316 36	733 43	36,802 24	17,240 00	....	3,344 84	150,225 38	17
931 70	2,246 00	17,202 90	18,254 48	....	1,658 77	58,709 54	18
749 91	41 45	4,802 71	1,000 00	....	522 54	30,821 25	19
1,836 26	....	....	3,500 00	....	88 40	42,308 27	20
1,116 58	3,000 00	2,401 20	11,500 00	....	505 85	49,708 12	21
389 95	6,470 39	2,375 25	....	....	2,565 89	40,855 84	22
7,006 13	....	112,817 85	54,094 99	....	3,774 58	268,517 32	23
2,078 99	....	47,000 00	2,500 00	....	5,451 80	131,901 94	24
3,491 47	....	76,196 14	65,759 06	....	558 24	210,558 78	25
9,759 86	....	7,920 01	....	....	431 32	79,757 43	26
818 25	....	22,510 00	....	....	992 52	42,974 55	27
944 32	....	3,869 70	....	....	353 17	29,416 48	28
13 50	....	....	....	....	181 01	4,377 80	29
6,059 72	680 71	20,380 95	10,000 00	....	2,878 43	137,566 26	30
216 36	....	1,000 00	2,500 00	....	....	16,212 14	31
2,120 30	1,436 50	2,873 27	20,825 00	....	2,200 57	55,253 41	32
14 00	....	300 00	902 00	....	....	3,611 28	33
18 00	....	....	....	....	648 98	7,305 86	34
....	....	....	....	....	....	....	35
82 00	....	2,000 00	....	....	5,850 18	23,170 17	36
1,048 54	600 00	4,059 02	2,666 60	....	575 62	48,100 47	37
1,835 61	....	13,931 22	28,567 04	....	1,151 74	111,703 06	38
1,191 61	1,965 04	19,945 35	....	1,156 68	1,297 81	76,819 41	39
5,136 21	19,000 00	5,200 00	19,000 00	....	1,007 03	129,555 42	40
....	....	....	....	....	....	....	41
2,192 85	....	35,500 00	26,805 74	....	1,456 48	100,814 91	42
460 85	100 00	2,679 86	....	....	766 15	17,366 47	43
....	....	....	....	....	....	....	44
1,421 00	....	20,225 44	8,770 00	470 92	395 76	44,003 93	45
179 47	....	....	....	....	....	4,262 35	46
106,528 53	76,557 11	1,111,649 22	599,958 45	35,212 40	*114,291 44	4,155,529 08	

of Justice—Essex $41.11, Elgin $3.00 and Bruce $74.50.

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

TABLE No. XII.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	Expenditure.				
		Taxes paid to county treasurer.	School boards on account of school rates.	Other payments on account of schools and education.	Roads, bridges, streets and parks.	Buildings and other property.
		$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	3,955 48	25,279 21	2,615 23	17,733 86	55,138 56
2	Kent	8,329 30	34,270 90	23,995 33	20,000 53	1,314 37
3	Elgin	1,494 00	4,774 10	15,040 79	2,534 20	118 22
4	Norfolk	2,869 29	8,007 96	2,401 92	3,518 74	1,203 30
5	Haldimand	2,264 50	5,910 00	327 00	4,488 04	324 18
6	Welland	5,308 11	16,415 27	8,373 57	13,862 99	6,590 65
7	Lambton	7,015 58	30,072 25	3,120 46	26,329 63	....
8	Huron	5,430 18	23,662 80	3,486 74	11,572 14	193 74
9	Bruce	7,482 22	22,132 43	5,510 00	12,440 56	7,343 19
10	Grey	2,976 08	18,148 13	1,339 09	8,176 30	2,908 15
11	Simcoe	9,472 11	33,588 82	5,864 94	16,578 93	275 48
12	Middlesex	4,945 84	18,285 15	8,108 59	8,827 10	5,643 71
13	Oxford	11,205 47	29,317 54	8,576 38	19,714 06	1,099 86
14	Brant	1,092 61	4,883 05	476 00	2,898 43	1,116 66
15	Perth	1,884 98	14,779 89	3,269 81	6,456 74	3,061 77
16	Wellington	8,841 61	19,198 30	2,776 76	9,030 20	795 53
17	Waterloo	4,677 00	26,031 20	3,095 85	18,386 95	12,222 43
18	Dufferin	246 75	6,381 00	557 00	3,989 38	534 58
19	Lincoln	1,658 56	8,829 45	722 10	4,480 33	1.578 33
20	Wentworth	2,269 82	9,235 50	436 00	2,268 30	3,500 00
21	Halton	1,601 32	10,183 93	1,624 70	5,071 73	343 28
22	Peel	848 40	5,206 57	530 00	5,193 00	152 50
23	York	3,131 89	17,955 46	2,370 83	106,305 07	188 05
24	Ontario	2,294 12	25,199 29	6.236 66	12,201 30	667 28
25	Durham	1,144 35	17,143 56	631 53	8.510 02	2,822 25
26	Northumberland	823 55	16,688 39	1,199 00	8,618 60	1,699 95
27	Prince Edward	1,714 79	7,049 50	389 00	3,021 12	178 86
28	Lennox and Addington	473 59	8,094 41	284 00	4,574 25	....
29	Frontenac	488 32	2,101 72	150 00	530 00	128 67
30	Leeds and Grenville	3,288 20	24,598 88	3,534 39	17,035 91	1,704 71
31	Dundas	739 44	5,238 00	507 00	4,828 73	....
32	Stormont	1,900 07	10,128 78	337 00	3,725 89	1,995 20
33	Glengarry	....	537 02	817 00	958 85	....
34	Prescott	821 81	2,666 64	1,528 43	889 83	....
35	Russell	....	....	....	....	....
36	Carleton	2,093 46	3,288 34	208 00	13,173 41	....
37	Renfrew	3,207 32	12,643 54	3,979 75	6,130 51	818 54
38	Lanark	3,581 82	21,534 49	3,115 36	9,130 08	1,003 22
39	Victoria	3,248 33	15,018 67	1,322 00	4,890 67	391 35
40	Peterborough	814 00	17,219 98	1,638 11	13,461 40	3,053 05
41	Haliburton	....	....	....	....	....
42	Hastings	2,670 03	11,903 60	6,496 30	9,521 84	33,279 37
43	Muskoka	525 84	4,961 75	337 00	3,011 78	636 14
44	Parry Sound	....	....	....	....	....
45	Algoma	....	3,900 84	553 00	7,465 97	1,631 34
46	Nipissing	....	1,100 00	....	1,140 13	340 15
	Totals	128,830 14	603,566 31	137,882 62	462,677 53	155,996 62

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

and Liabilities for the Town and Village Municipalities, etc.—*Continued.*

EXPENDITURE.—*Continued.*

Expenses of municipal government.									
Election of members of council.	Allowances, salaries and commissions.	Law costs.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Lighting of streets.	Water supply and fire protection.	Other expenses of municipal government.	Administration of Justice, including police service.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
550 02	4,555 54	638 86	1,597 42	949 20	3,271 40	13,805 11	3,846 71	5,741 82	1
269 25	5,589 19	796 30	1,147 39	1,129 67	2,135 56	7,896 22	727 40	4,460 43	2
55 42	1,047 00	453 83	216 96	77 00	....	1,241 46	109 51	....	3
104 20	1,351 62	119 20	269 21	117 37	560 84	231 69	68 40	431 00	4
66 24	1,057 43	90 50	211 49	58 98	242 81	921 12	....	24 30	5
151 00	5,328 59	446 20	892 20	44 50	916 02	9,208 97	1,378 50	1,367 09	6
269 92	5,725 94	762 20	952 75	651 48	1,322 71	10,167 55	509 78	2,514 88	7
263 35	6,971 52	123 25	784 17	678 22	76 69	3,410 34	435 62	....	8
205 35	4,471 90	2,075 66	1,440 37	402 99	282 00	1,069 28	1,022 85	25 25	9
163 96	3,602 31	136 90	695 55	1,179 55	169 50	3,870 18	578 66	2,411 59	10
204 19	6,446 48	302 45	1,095 72	466 28	858 25	3,827 51	697 73	650 35	11
162 78	3,377 25	2,459 32	525 87	317 88	463 33	608 60	864 49	64 20	12
349 45	6,368 42	1,515 21	1,203 94	667 20	2,306 44	33,871 48	56 64	1,793 03	13
18 50	1,431 01	26 70	171 85	96 40	605 34	1,145 45	....	461 25	14
123 90	3,417 30	611 54	965 22	430 00	380 00	1,555 58	288 92	813 75	15
190 50	4,083 14	4,120 09	844 74	271 90	420 00	2,811 51	165 39	475 30	16
326 85	7,129 31	356 23	1,362 99	730 80	1,790 15	3,731 67	1,229 77	6 00	17
65 75	1,036 91	....	362 30	155 00	204 47	3,921 05	10 18	300 00	18
76 22	1,751 68	519 20	345 26	208 96	221 04	530 31	90 30	270 88	19
66 00	2,678 67	470 90	301 05	307 56	869 46	696 48	15 00	....	20
70 50	2,325 20	937 66	443 23	811 99	171 87	450 34	106 90	350 00	21
63 39	2,622 16	....	274 54	113 23	281 57	1,340 37	13 25	....	22
123 58	5,607 95	6,149 03	1,725 87	1,405 76	4,246 88	18,206 27	753 61	1,673 81	23
264 89	3,845 46	135 89	736 95	1,725 21	840 38	4,022 66	355 24	1,030 00	24
43 00	3,960 25	61 00	716 55	310 54	2,528 61	2,413 91	12 00	3,556 22	25
155 68	3,061 85	3 00	486 37	1,365 12	972 54	672 99	32 42	3,792 42	26
56 50	979 45	44 22	141 87	119 88	389 52	253 06	19 30	978 35	27
45 24	2,955 55	349 43	202 14	277 92	465 00	1,131 19	....	8 70	28
11 00	298 55	....	34 80	....	....	....	31 22	....	29
117 66	6,701 67	788 52	831 77	1,234 09	2,577 63	11,419 39	143 11	5,116 77	30
15 74	281 00	65 50	79 29	119 26	....	1,066 00	....	....	31
65 00	3,572 14	....	505 18	188 74	619 50	586 00	....	....	32
34 20	196 55	....	37 00	....	....	....	....	....	33
2 00	363 18	103 15	55 43	29 05	....	....	....	56 00	34
....	....	....	....	....	....	....	....	....	35
3 50	325 00	....	104 72	11 00	....	....	....	....	36
36 00	2,939 01	25 33	344 74	128 50	712 20	1,425 33	....	1 50	37
82 70	3,446 70	21 89	827 06	1,597 44	747 81	4,810 24	130 00	888 50	38
142 74	2,717 03	555 70	674 63	442 65	702 42	2,816 13	64 00	2,057 22	39
157 81	2,639 02	619 00	414 34	1,257 04	3,247 10	1,974 49	2,587 16	5,828 36	40
....	....	....	....	....	....	....	....	....	41
90 75	1,860 30	758 62	550 95	269 80	100 00	1,493 56	202 60	2,002 09	42
153 48	999 94	121 63	472 19	91 00	....	522 50	59 25	117 38	43
....	....	....	....	....	....	....	....	....	44
338 72	2,150 47	....	544 98	388 00	....	3,328 71	137 18	2,199 98	45
....	270 80	15 00	21 67	102 10	....	....	....	111 31	46
5,756 93	131,540 44	26,779 11	25,612 72	20,929 26	35,699 04	162,454 70	16,743 09	51,579 73	

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

Table No. XII.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	Expenditure.—*Continued.*						
		Debentures redeemed.	Refund of money borrowed for current expenditure.	Interest on loans and advances.	Sinking fund investments.			Support of the poor and other charities.
					Mortgages.	Debentures of the municipality.	Loans and deposits.	
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	16,955 14	31,048 35	26,190 17	....	....	15,487 96	1,768 32
2	Kent	11,628 85	142,446 86	14,157 78	....	....	....	3,266 43
3	Elgin	1,884 47	8,625 00	3,162 85	....	....	....	48 63
4	Norfolk	2,711 00	7,000 00	3,640 32	....	....	....	650 85
5	Haldimand	1,125 00	2,322 25	1,221 21	....	....	....	149 20
6	Welland	4,160 09	14,953 54	3,898 60	....	....	2,400 00	1,971 65
7	Lambton	26,278 34	61,071 75	16,537 18	....	....	2,035 00	1,580 41
8	Huron	3,235 83	35,204 28	10,700 37	2,000 00	....	3,344 10	1,568 39
9	Bruce	3,226 81	5,479 60	4,397 49	4,482 40	6,500 00	2,602 90	977 93
10	Grey	2,340 00	8,100 00	10,122 95	....	....	....	993 97
11	Simcoe	15,294 00	34,304 50	16,462 03	2,000 00	....	5,802 78	2,005 23
12	Middlesex	6,977 80	46,622 50	4,989 00	....	....	....	340 70
13	Oxford	34,174 47	99,444 31	15,464 83	6,000 00	13,970 93	1,500 00	1,186 83
14	Brant	889 00	5,000 00	2,827 27	....	....	2,135 00	437 95
15	Perth	3,234 90	82,355 19	12,676 85	....	....	....	854 13
16	Wellington	6,330 65	26,888 00	13,110 69	8,150 00	....	584 75	370 06
17	Waterloo	4,152 95	30,114 20	9,193 83	....	....	8,364 15	410 41
18	Dufferin	1,399 93	27,581 37	5,651 99	....	....	271 33	118 99
19	Lincoln	2,228 80	4,556 12	528 41	....	....	150 00	559 01
20	Wentworth	992 50	2,000 00	3,300 43	....	....	....	726 22
21	Halton	4,660 00	2,500 17	3,713 28	....	....	500 00	406 81
22	Peel	12,673 97	2,460 71	737 81	....	....	5,200 00	656 61
23	York	2,300 41	2,109 33	20,802 59	....	....	30,960 91	605 96
24	Ontario	4,130 90	44,844 83	12,889 25	....	....	....	1,770 35
25	Durham	49,662 66	77,744 82	12,451 50	....	....	8,000 00	1,356 54
26	Northumberland	2,968 30	7,964 77	16,725 53	....	....	3,125 99	693 66
27	Prince Edward	1,392 71	22,331 51	1,639 62	....	....	....	894 16
28	Lennox and Addington	....	3,900 00	4,090 03	....	....	....	756 18
29	Frontenac	....	....	24 00	....	....	....	....
30	Leeds and Grenville	4,935 00	18,058 53	7,280 47	....	....	2,076 00	2,411 89
31	Dundas	1,645 50	600 00	....	....	....	....	98 00
32	Stormont	2,791 00	23,174 82	4,275 10	....	....	....	79 74
33	Glengarry	....	150 00	2 25	....	....	....	21 50
34	Prescott	100 00	41 86	399 00	....	....	98 00	23 75
35	Russell	....	....	....	....	....	....	....
36	Carleton	300 00	....	1,076 71	....	....	528 25	....
37	Renfrew	1,359 64	1,607 09	6,867 07	....	....	....	111 80
38	Lanark	6,300 00	12,748 70	6,154 78	....	....	....	747 91
39	Victoria	5,915 32	17,945 35	10,729 74	....	....	1,004 00	850 27
40	Peterborough	14,120 00	11,904 65	11,381 23	....	*19,000 00	2,963 87	4,758 90
41	Haliburton	....	....	....	....	....	....	....
42	Hastings	....	15,521 63	4,921 14	....	....	1,048 56	907 61
43	Muskoka	1,903 99	1,427 94	1,106 16	....	....	....	141 60
44	Parry Sound	....	....	....	....	....	....	....
45	Algoma	....	4,761 45	5,549 46	....	....	....	569 00
46	Nipissing	....	....	77 50	....	....	....	5 00
	Totals	266,379 93	946,915 98	311,128 47	22,632 40	39,470 93	100,183 55	37,852 55

* Debentures of *other* municipalities.

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

and Liabilities for the Town and Village Municipalities, etc.—*Continued.*

Expenditure.—*Continued.*				Assets.					
Board of Health.	Miscellaneous.	Total.	Balance December 31, 1886.	Land, buildings, furniture, etc.	Stock in public works.	Mortgages.	Debentures.	Other investments.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
657 28	3,087 85	234,873 49	8,494 95	147,708 00	172,057 00	9,065 00	881 69	21,509 96	1
615 03	1,622 46	285,799 25	2,640 60	132,007 00	29,275 52	24,814 05	....	6,515 06	2
5 00	1,202 71	42,091 15	750 91	33,606 67	....	14,309 66	....	....	3
20 00	2,476 81	37,753 72	4,956 91	44,000 00	....	25,033 00	....	139 95	4
75	4,362 45	25,167 45	4,790 69	17,184 00	....	....	....	....	5
51 00	2,877 29	100,595 83	5,491 76	120,630 00	36,000 00	....	....	11,534 41	6
475 46	36,404 67	233,797 94	9,710 86	120,822 10	32,000 00	....	3,001 05	4,225 51	7
26 00	14,660 36	127,828 09	13.380 36	91,510 00	5,700 00	23,500 00	1,000 00	9,204 07	8
383 23	5,314 95	99,269 36	4,291 48	65,790 00	1,700 00	24,425 00	12,800 00	7,614 16	9
422 14	3,348 96	71,683 97	12,504 71	84,600 00	....	....	...	11,462 80	10
75 00	6,011 56	162,284 34	15,455 75	183,970 95	15,000 00	2,000 00	23,475 97	11,400 33	11
331 11	826 37	114,741 59	4,997 37	77,600 00	....	....	....	4,700 00	12
69 70	28,219 05	318,075 24	3,093 54	159,499 00	90,887 04	21,969 04	41,145 94	30,596 28	13
20 50	3,414 81	29,147 78	663 57	40,115 46	....	....	....	2,135 00	14
47 50	1,887 68	139,095 65	422 88	102,750 00	....	....	....	....	15
30 98	3,136 59	112,626 69	13,173 36	84,415 00	....	19,750 00	6,400 00	3,111 13	16
419 75	7,455 37	141,187 86	9,037 52	202,079 94	....	30,999 34	....	8,534 29	17
....	5,665 39	58,453 37	256 17	43,997 71	....	8,000 00	....	271 33	18
123 50	267 47	29,695 93	1,125 32	31,550 00	....	....	....	862 56	19
223 50	4.699 67	35,057 06	7,251 21	69,924 52	....	....	3,000 00	2,314 00	20
223 98	8,953 08	45,449 97	4,258 15	38,130 72	10,000 00	2,000 00	7,500 00	1,000 00	21
88 70	744 99	39,201 77	1,654 07	21,765 00	75,000 00	68,509 59	....	8,466 70	22
275 90	7,481 12	234,380 28	34,137 04	55,520 00	218,325 45	4,700 00	4,450 85	31,814 91	23
65 25	4,963 30	128,219 21	3,682 73	129,920 00	24,487 00	....	....	....	24
....	1,297 54	194,366 85	16,191 93	88,965 75	34,782 00	....	....	8,000 00	25
....	1,489 97	72,540 10	7,217 33	182.235 00	20,000 00	....	....	15,887 08	26
42 70	80 89	41,717 01	1,257 54	32,800 00	....	....	....	1,000 00	27
228 28	200 63	28.036 54	1,379 94	35,700 00	....	....	2,000 00	....	28
....	477 87	4,276 15	101 65	3.000 00	....	....	....	....	29
1,470 11	13,559 19	128,883 92	8,682 34	162,653 00	....	....	....	10,594 12	30
20 00	489 85	15,793 31	418 83	6,000 00	....	....	....	....	31
223 59	1,085 66	55,253 41	....	59,000 00	....	....	....	2,205 00	32
37 45	341 80	3,133 62	477 66	210 00	....	....	....	....	33
....	8 33	7,186 46	119 40	12,000 00	5,000 00	....	....	2,706 54	34
....	....	....	....	....	....	....	....	....	35
....	1,928 14	23,040 53	129 64	750 00	....	....	....	1,158 68	36
30 26	539 77	42,907 90	5,192 57	26,331 71	....	....	15,000 00	26,800 00	37
2,047 10	26,096 35	105,012 15	6,690 91	173,500 00	....	....	....	80 00	38
490 06	3,407 73	75,386 01	1,433 40	77,925 00	10,000 00	....	....	204 00	39
313 50	4,712 04	124,065 05	5,490 37	239,300 00	57,200 00	....	41,000 00	7,676 07	40
....	....	....	....	....	....	....	....	....	41
1,662 70	2,115 16	97,376 61	3,438 30	64,650 00	....	....	....	8,390 43	42
66 00	602 56	17,258 13	108 34	20,600 00	....	700 00	....	....	43
....	....	....	....	....	....	....	....	....	44
471 02	6,444 17	40,434 29	3,569 64	11,376 48	....	....	....	....	45
....	135 08	3,318 74	943 61	3,000 00	....	....	....	300 00	46
11,754 03	89	3,926,463 77	229,065 31	3,299,093 01	837,414 01	279,774 68	161,655 50	262,414 37	

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

TABLE No. XII.—Summary statement of Receipts, Expenditure, Assets

Number.	Counties.	ASSETS—*Continued.*					
		Uncollected taxes for 1886.	Other arrears of taxes (estimated).	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Essex	62,708 64	13,632 17	2,101 61	6,393 34	18,552 32	454,609 73
2	Kent	65,318 49	5,865 93	1,433 32	1,207 28	25,985 27	292,421 92
3	Elgin	2,078 41	....	153 12	597 79	11,147 75	61,893 40
4	Norfolk	1,012 82	198 39	1,768 11	3,188 80	....	75,341 07
5	Haldimand	988 87	227 00	2,717 27	2,073 42	....	23,190 56
6	Welland	6,767 85	400 00	3,109 30	2,382 46	8,312 51	189,136 53
7	Lambton	45,227 86	8,221 42	4,669 98	5,040 88	4,378 90	227,587 70
8	Huron	7,013 99	2,664 41	2,811 35	10,569 01	5,140 00	159,112 83
9	Bruce	26,493 79	2,453 78	3,046 93	1,244 55	106 75	145,674 96
10	Grey	29,763 18	795 29	3,293 43	9,211 28	6,484 29	145,610 27
11	Simcoe	26,041 91	1,535 91	2,576 65	12,879 10	12,358 41	291,239 23
12	Middlesex	14,357 25	115 47	3,196 69	1,800 68	3,142 82	104,912 91
13	Oxford	11,839 81	60 02	863 76	2,229 78	7,725 12	366,815 79
14	Brant	182 88	464 03	....	663 57	9 32	43,570 26
15	Perth	11,299 52	353 11	422 88	....	24,237 00	139,062 51
16	Wellington	8,439 07	1,657 11	9,694 31	3,479 05	4,891 86	141,837 53
17	Waterloo	9,797 45	407 00	3,433 59	5,603 93	13,794 23	274,649 77
18	Dufferin	3,205 59	1,554 97	256 17	....	4,591 27	61,877 04
19	Lincoln	2,172 94	188 32	1,125 32	....	1,426 48	37,325 62
20	Wentworth	5,257 76	1,056 84	3,009 71	4,241 50	3,751 98	92,556 31
21	Halton	8,132 23	1,335 22	489 78	3,768 37	4,062 91	76,419 23
22	Peel	5,849 38	273 69	144 12	1,509 95	2,383 99	183,902 42
23	York	13,452 97	9,903 19	5,047 71	29,089 33	46,024 89	418,329 30
24	Ontario	17,193 94	1,965 85	521 49	3,161 24	15,224 95	192,474 47
25	Durham	3,890 25	2,012 68	681 92	15,510 01	2,539 58	156,382 19
26	Northumberland	8,848 73	....	419 04	6,798 29	10,800 00	244,988 14
27	Prince Edward	9,325 38	435 87	206 53	1,051 01	78 75	44,897 54
28	Lennox and Addington	10,378 46	....	1,379 94	....	4,050 00	53,508 40
29	Frontenac	1,319 81	66 95	101 65	....	20 65	4,509 06
30	Leeds and Grenville	20,075 87	....	7,682 34	1,000 00	22,793 60	224,798 93
31	Dundas	29 43	....	418 83	....	3,455 00	9,903 26
32	Stormont	554 34	....	....	....	5,000 00	66,759 34
33	Glengarry	2,086 14	20 58	477 66	....	....	2,794 38
34	Prescott	2,703 91	58 82	119 40	....	....	22,588 67
35	Russell	....	....	....	....	....	....
36	Carleton	956 48	290 97	129 64	....	64 00	3,349 77
37	Renfrew	26,572 09	....	5,192 57	....	17,734 33	117,630 70
38	Lanark	6,807 77	200 00	4,501 76	2,189 15	12,000 00	199,278 68
39	Victoria	20,414 92	4,812 14	907 07	526 33	1,865 13	116,654 59
40	Peterborough	8,578 71	367 57	1,237 65	4,252 72	7,480 00	367,092 72
41	Haliburton	....	....	....	....	....	....
42	Hastings	17,555 88	1,200 00	480 27	2,958 03	3,543 87	98,778 48
43	Muskoka	3,042 60	375 11	108 34	....	7,600 00	32,426 05
44	Parry Sound	....	....	....	....	....	....
45	Algoma	43,565 54	....	3,569 64	....	16,141 66	74,653 32
46	Nipissing	952 90	....	943 61	....	1,000 00	6,196 51
	Totals	572,255 81	65,169 81	84,444 46	144,620 85	339,899 59	6,046,742 09

FINANCIAL STATEMENT—TOWN AND VILLAGE MUNICIPALITIES.

and Liabilities for the Town and Village Municipalities, etc.—*Continued.*

LIABILITIES.								
		Debentures outstanding for—						
County rates.	Local school rates.	Aid to railways.	All other objects.	Coupons on debentures due and unpaid.	Loans for current expenditure and interest on same.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
2,005 46	4,667 22	24,000 00	434,197 52	....	45,288 15	11,088 01	521,246 36	1
23,773 31	5,741 68	105,290 40	225,507 06	....	75,269 34	5,532 04	441,113 83	2
1,088 00	....	....	35,745 73	....	1,887 96	146 93	38,868 62	3
....	....	15,000 00	43,829 00	....	....	4,647 95	63,476 95	4
137 50	825 00	12,000 00	9,480 00	....	1,555 25	3,235 68	27,233 43	5
645 18	4,453 02	....	68,999 89	835 86	1,423 79	913 21	77,270 95	6
1,140 55	14,200 00	34,576 00	227,345 08	5,673 27	22,699 79	1,519 80	307,154 49	7
2,473 68	1,738 72	57,132 00	127,531 44	504 00	2,500 00	4,520 30	196,400 14	8
892 87	7,460 00	25,618 00	101.845 41	985 00	7,790 41	16,120 01	160,711 70	9
2,008 94	....	74,000 00	91,600 00	....	3,850 00	14,078 97	185,537 91	10
2,945 61	3,147 82	48,950 00	200,934 00	974 00	8,216 23	6,679 83	271,847 49	11
2,097 54	....	....	71,324 44	....	13,087 44	212 45	86,721 87	12
2,914 00	7,016 00	110,740 00	174,956 14	2,280 00	7,351 65	44,929 04	350,186 83	13
....	....	....	43,723 00	....	....	404 42	44,127 42	14
658 04	737 30	30,000 00	119,291 29	....	15,975 00	2,367 32	169,028 95	15
1,655 25	6,722 62	111,000 00	85,339 90	....	3,259 35	13,911 52	221,888 64	16
....	6,579 82	16,385 45	168,126 20	96 00	8,956 74	4,142 50	204,286 71	17
1,116 25	1,900 00	29,500 00	53,325 60	....	1,023 40	6,596 74	93,461 99	18
979 57	....	....	14,690 00	....	1,506 96	209 59	17,386 12	19
....	3,007 50	....	66,938 75	....	....	5,684 33	75,630 58	20
446 98	149 00	34,850 00	32,995 00	....	1,577 00	97 53	70,415 51	21
....	3,700 00	20,500 00	129,660 61	300 00	725 25	76 04	154,961 90	22
1,648 65	444 35	....	341,580 29	....	115,027 95	408 29	459,109 53	23
801 00	240 40	55,000 00	134,124 10	....	12,300 00	11,196 07	213,661 57	24
214 00	700 00	....	199,601 91	....	11,564 89	4,777 52	216,858 32	25
....	697 97	5,705 20	285,822 63	....	1,793 96	25,542 00	319,561 76	26
1,419 00	4,209 50	14,909 04	2,650 00	....	7,250 00	....	30,437 54	27
397 68	....	36,500 00	31.200 00	....	....	....	68,097 68	28
171 66	899 74	....	....	....	419 00	57 50	1,547 90	29
2,538 00	1,936 88	82,000 00	71,115 00	....	10,782 50	5,389 00	173,761 38	30
....	....	....	12,873 17	....	400 00	400 00	13,673 17	31
....	....	....	80,793 00	....	2,886 27	....	83,679 27	32
133 93	861 29	....	902 00	....	749 75	2,120 20	4,767 17	33
224 57	1,068 80	....	6,200 00	....	....	816 62	8,309 99	34
....	....	....	....	....	....	....	....	35
330 00	495 75	....	15,241 32	....	2,000 00	2,550 00	20,617 07	36
2,635 00	13,372 33	72,000 00	36,370 00	....	11,143 62	....	135,520 95	37
....	3,300 00	41,000 00	70,350 00	....	3,000 00	....	117,650 00	38
3,719 40	9,530 00	113,062 56	42,350 00	....	9,000 00	3,561 91	181,223 87	39
1,030 63	327 75	....	188,910 00	1,116 25	2,924 95	6,372 71	200,682 29	40
....	....	....	....	....	....	....	....	41
3,924 76	....	20,000 00	42,600 00	....	40,812 00	13,699 59	121,036 35	42
680 15	1,424 88	....	26,208 65	....	1,418 90	1,876 00	31,608 58	43
....	....	....	....	....	....	....	....	44
....	1,258 53	31,000 00	60,106 28	2,245 00	22,025 44	5,573 36	122,208 61	45
....	470 80	....	2,500 00	....	....	381 70	3,352 50	46
66,847 16	113,584 67	1,220,718 65	4,178,884 41	15,009 38	479,442 94	231,836 68	6,306,323 89	

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

TABLE NO. XIII.—Detailed statement of Receipts, Expenditure, Assets and Liabilities for

Number.	Cities.	Receipts.						
		Balance from 1886.	Taxes, municipal and school.		Licenses, various.	Interest on bank deposits and dividends or interest on stock in public works or on other investments.	Received from Government on account of—	
			Per collector.	Non-resident taxes.			Schools.	Other purposes (except loans).
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville.......	495 98	67,331 68	5,344 98	4,665 90	2,348 40	1,084 00	....
2	Brantford	2,000 62	76,960 30	162 24	4,073 01	3,678 02	1,474 00	....
3	Guelph	665 31	59,834 69	1,481 66	598 25	536 43	3,376 18	200 00
4	Hamilton	30,222 18	599,641 05	454 34	22,318 63	4,554 27	7,369 80	8,188 64
5	Kingston.......	5,039 28	104,790 74	372 20	9,872 08	6,707 39	1,433 00	402 13
6	London	30,314 26	254,693 92	2,029 23	9,759 86	4,657 15	4,738 82	5,789 01
7	Ottawa....	197,780 35	230,547 52	301 38	17,491 62	17,662 44	2,036 00	....
8	St. Catharines..	836 25	100,118 45	....	3,101 65	....	1,008 00	....
9	St. Thomas.....	26,106 25	42,993 26	39 00	998 00	2,138 13	1,290 00	....
10	Stratford.......	2,726 21	53,701 90	481 94	3,711 37	943 14	983 00	... .
11	Toronto	286,100 52	1,416,269 18	.. ..	61,619 36	102,083 85	12,885 00	5,767 64
	Totals......	582,287 21	3,006,882 69	10,666 97	138,209 73	145,309 22	37,677 80	*20,347 42

* Including $6,151.00 received from Government on account of Administration

TABLE NO. XIV.—Detailed statement of Receipts, Expenditure, Assets and Liabilities for

Number.	Cities.	Receipts.						
		Balance from 1885.	Taxes, municipal and school.		Licenses, various.	Interest on bank deposits and dividends or interest on stock in public works or on other investments.	Received from Government on account of—	
			Per collector.	Non-resident taxes.			Schools.	Other purposes (except loans).
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville..... .	520 12	67,287 16	2,531 61	5,026 64	592 76	1,085 00	24 24
2	Brantford......	3,415 89	71,993 19	399 84	4,087 39	3,734 74	1,441 00	22 44
3	Guelph.	604 00	59,917 93	1,302 66	786 33	374 07	2,393 49	451 00
4	Hamilton	19,890 10	356,028 43	323 90	18,333 75	4,075 27	6,632 79	9,271 37
5	Kingston.......	1,065 19	106.383 07	280 45	9,228 36	1,384 76	1,555 00	457 19
6	London	19,020 09	304,375 68	....	9,905 87	3,537 87	4,928 83	5,740 94
7	Ottawa	210,547 58	220,381 94	....	17,634 98	15,308 72	1,997 00	90 25
8	St. Catharines..	1,471 28	95,963 19	....	3,450 84	2,972 91	998 00	30 71
9	St. Thomas.....	34,830 57	60,504 00	....	1,295 97	2,204 36	1,311 00	....
10	Stratford.......	21,113 30	49.066 33	984 15	4,306 45	580 72	952 00	....
11	Toronto	462,155 41	1,289,395 07	....	53,925 43	65,035 91	12,640 00	4,569 34
	Totals......	774,633 53	2,681,295 99	5,822 61	127,982 01	99,802 09	35,934 11	*20,657 48

* Including $4,810.65 received from Government on account of Administration

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

the City Municipalities in the Province of Ontario for the year ending December 31, 1887.

RECEIPTS—*Continued.*							
Fees, rents, tolls, fines, etc.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures.	Taken from sinking fund.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
7,899 28	....	22,716 71	....	18,561 50	2,727 60	133,176 03	1
3,117 92	400 00	2,539 61	....	5,000 00	1,892 92	101,298 64	2
6,098 67	....	933,000 00	7,000 00	17,057 67	12,502 11	1,042,350 97	3
26,151 32	....	30,095 76	84,335 66	....	162,472 36	975,804 01	4
5,757 87	....	91,000 00	163,464 70	....	204 52	389,043 91	5
26,261 19	17,368 46	895,000 00	148,654 00	29,522 25	62,229 43	1,491,017 58	6
21,369 50	....	145,000 60	141,324 00	....	150,301 30	923,814 11	7
7,823 27	....	112,799 20	36,455 58	2,139 76	1,248 60	265,530 76	8
4,484 10	....	323,800 00	38,024 17	....	1,856 24	441,729 15	9
2,548 60	....	79,000 00	82,100 00	1,625 20	1,273 20	229,094 56	10
470,161 71	409 01	432,401 24	1,055,371 40	....	169,508 97	4,012,577 88	11
581,673 43	18,177 47	3,067,352 52	1,756,729 51	73,906 38	566,217 25	10,005,437 60	

of Justice—Hamilton $264.65, London $118.71 and Toronto $5,767.64.

the City Municipalities in the Province of Ontario for the year ending December 31, 1886.

RECEIPTS—*Continued.*							
Fees, rents, tolls, fines, etc.	Refund of moneys loaned or invested.	Money borrowed for current expenditure.	Money borrowed on debentures.	Taken from sinking fund.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
6,533 87	....	30,893 81	....	....	2,234 98	116,730 19	1
2,570 40	....	....	....	....	1,739 25	89,404 14	2
4,568 36	....	110,000 00	11,960 00	....	11,076 46	203,434 30	3
19,426 21	90,968 00	171,973 69	....	....	158,977 59	855,901 10	4
5,587 60	....	68,000 00	16,121 62	....	295 49	210,358 73	5
24,033 22	39,074 00	940,000 00	....	....	31,605 56	1,382,222 06	6
16,674 80	....	90,000 00	107,583 82	9,325 93	126,579 89	816,124 91	7
6,308 79	....	113,570 93	6,472 48	929 67	758 15	232,926 95	8
979 12	....	22,500 00	....	....	1,889 97	125,514 99	9
2,116 34	15,825 00	69,000 00	22,603 75	....	1,307 19	187,855 23	10
432,489 77	75,000 00	331,381 22	668,820 16	....	307,231 61	3,702,643 92	11
521,288 48	220,867 00	1,947,319 65	833,561 83	10,255 60	643,696 14	7,923,116 52	

Justice—Belleville $24.24, Hamilton $307.78, London $227.25 and Toronto $4,251.38.

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

TABLE No. XIII.—Detailed statement of Receipts, Expenditure,

Number.	Cities.	Expenditure.					
		School boards on account of school rates.	Other payments on account of schools and education.	Roads, bridges, streets and parks.	Buildings and other property.	Expenses of municipal government.	
						Election of members of council.	Allowances, salaries and commissions.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville	17,246 00	1,084 00	14,930 87	800 00	195 70	6,546 71
2	Brantford	20,069 04	1,715 00	17,101 83	738 82	223 50	4,380 00
3	Guelph	19,644 16	3,376 18	6,303 50	....	140 00	4,080 71
4	Hamilton	134,517 35	7,369 80	82,593 97	20,464 32	207 35	15,303 74
5	Kingston	25,676 94	11,340 30	41,573 45	122,528 31	210 00	7,383 75
6	London	41,501 35	4,738 82	54,008 07	72,774 80	459 50	15,566 62
7	Ottawa	56,430 30	48,996 65	108,675 85	....	736 25	12,566 18
8	St. Catharines	19,693 33	1,008 00	40,731 83	10,625 36	212 00	5,505 00
9	St. Thomas	16,845 00	2.460 00	31,292 14	706 56	203 46	3,527 55
10	Stratford	15,632 13	10,983 00	13,587 48	....	125 00	2,400 00
11	Toronto	232,028 00	112,000 00	1,004,786 27	98,473 78	2,626 75	78,430 08
	Totals	599,283 60	205,071 75	1,415,585 26	327,111 95	5,339 51	155,690 34

TABLE No. XIV.—Detailed statement of Receipts, Expenditure

Number.	Cities.	Expenditure.					
		School boards on account of school rates.	Other payments on account of schools and education.	Roads, bridges, streets and parks.	Buildings and other property.	Expenses of municipal government.	
						Election of members of council.	Allowances, salaries and commissions.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville	14,318 00	1,085 00	11,934 90	....	197 77	6,358 31
2	Brantford	19,350 00	1.200 00	15,113 75	1,004 63	221 00	3,530 00
3	Guelph	19,022 19	2,630 00	6,014 80	....	238 00	5,682 75
4	Hamilton	68,750 00	6,632 79	136,661 81	33,378 76	258 99	16,854 43
5	Kingston	20,921 59	11,756 70	28,428 15	....	217 00	7,176 75
6	London	41,268 13	4,928 83	49,915 11	750 00	1,220 75	14,637 21
7	Ottawa	44,790 78	8,848 68	174,502 93	14,082 78	277 39	12,049 98
8	St. Catharines	18,978 19	998 00	26,782 15	868 50	321 10	5,340 41
9	St. Thomas	15,950 00	2,111 00	4,040 50	....	135 00	3,955 15
10	Stratford	13,932 13	952 00	14,419 67	....	105 00	2,200 00
11	Toronto	211,310 40	65,976 70	599,636 61	67,317 89	2,787 38	71,115 53
	Totals	488,591 41	107,119 70	1,067,450 38	117,402 56	5,979 38	148,900 52

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

Assets and Liabilities for the City Municipalities, etc.—*Continued.*

EXPENDITURE—*Continued.*

Expenses of municipal government—*Continued.*						Administration of Justice, including police service.	Debentures redeemed.	Number.
Law costs.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Lighting of streets.	Water supply and fire protection.	Other expenses of municipal government.			
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
185 00	764 79	463 17	6,000 00	6,112 47	....	4,170 31	18,000 00	1
19 00	571 97	669 25	3,831 47	7,461 86	606 30	5,533 86	5,200 00	2
491 92	1,163 52	4,306 22	....	7,762 42	....	9,041 56	27,200 00	3
1,500 00	2,149 78	1,376 60	21,109 99	29,680 45	10,962 41	48,558 00	49,668 91	4
46 80	1,205 25	1,351 09	2,152 88	9,324 17	1,304 64	10,404 72	26,900 00	5
1,657 73	2,554 48	3,218 07	10,010 41	20,213 21	7,543 09	29,747 89	8,000 00	6
2,830 77	2,440 89	6,278 86	15,867 31	37,854 80	10,664 96	29,105 68	....	7
....	1,206 57	255 75	5,409 15	4,341 29	....	5,325 04	2,225 56	8
180 00	1,403 92	812 50	2,821 60	6,783 26	1,380 00	4,589 83	4,178 10	9
253 68	1,163 12	3,866 49	1,420 00	6,378 83	102 25	3,497 63	3,861 87	10
3,460 22	17,561 99	8,139 34	81,814 82	160,411 29	4,099 76	198,694 39	10,946 00	11
10,625 12	32,186 28	30,737 34	150,437 63	296,324 05	36,663 41	348,668 91	156,180 44	

Assets and Liabilities for the City Municipalities, etc.—*Continued.*

EXPENDITURE—*Continued.*

Expenses of municipal government—*Continued.*						Administration of Justice, including police service.	Debentures redeemed.	Number.
Law costs.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Lighting of streets.	Water supply and fire protection.	Other expenses of municipal government.			
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
170 00	1,081 05	1,414 74	....	11,366 01	....	3,583 22	....	1
158 93	209 00	575 75	3,856 47	6,449 32	....	5,391 13	....	2
....	1,189 70	2,155 11	... .	7,985 93	....	7,937 06	23,837 10	3
1,450 00	2,857 46	4,654 95	17,743 02	23,722 95	847 98	56,123 70	22,950 66	4
48 71	927 87	1,620 59	2,149 02	5,367 39	844 24	12,675 80	12,995 00	5
1,537 07	2,984 01	3,625 22	9,276 50	16,272 98	2,931 06	28,345 92	3,000 00	6
....	2,022 46	576 00	15,311 90	17,815 22	3,490 95	49,891 26	....	7
....	1,137 10	284 25	4,833 03	5,362 26	....	5,404 36	1,875 56	8
804 80	690 84	475 75	2,220 00	8,372 46	1,206 10	4,543 04	6,235 30	9
766 20	867 66	42 00	930 00	8,392 04	....	6,692 20	18,036 67	10
4,529 38	14,297 94	4,380 16	84,679 09	137,136 48	3,621 12	194,895 16	48,072 00	11
9,465 09	28,265 09	19,804 52	140,999 03	248,243 04	12,941 45	375,482 85	137,002 29	

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

TABLE NO. XIII.—Detailed statement of Receipts, Expenditure,

Number.	Cities.	Expenditure—*Continued.*					
		Refund of money borrowed for current expenditure.	Interest on loans and advances.	Sinking fund investments.		Support of the poor and other charities.	Board of Health.
				Debentures of the municipality.	Loans and deposits.		
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville	20,893 81	25,654 93	....	3,617 61	1,622 40	25 00
2	Brantford	....	14,021 36	*2,672 80	33 50	1,974 81	13 75
3	Guelph	808,000 00	17,997 62	....	....	1,780 13	280 00
4	Hamilton	171,973 69	148,005 42	....	3,145 90	26,538 96	10,764 62
5	Kingston	91,000 00	24,078 00	....	....	1,503 51	254 54
6	London	905,000 00	116,570 49	29,522 25	30,905 12	5,634 34	1,625 62
7	Ottawa	79,160 10	142,982 96	....	....	593 05	4,839 32
8	St. Catharines	102,327 69	36,054 95	....	5,220 07	1,460 18	526 18
9	St. Thomas	330,000 00	17,491 42	....	6,686 36	1,436 08	507 27
10	Stratford	68,000 00	18,736 03	....	2,879 97	1,309 37	....
11	Toronto	331,381 22	535,149 73	218,441 00	....	40,941 51	71,229 19
	Totals	2,907,736 51	1,096,742 91	250,636 05	52,488 53	84,794 34	90,065 49

*Debentures of other municipalities.

TABLE NO. XIV.—Detailed statement of Receipts, Expenditure,

Number.	Cities.	Expenditure—*Continued.*					
		Refund of money borrowed for current expenditure.	Interest on loans and advances.	Sinking fund investments.		Support of the poor and other charities.	Board of Health.
				Debentures of the municipality.	Loans and deposits.		
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville	24,508 62	27,289 25	....	5,099 91	1,596 10	39 25
2	Brantford	....	14,091 76	*2,782 40	26 12	2,161 32	100 00
3	Guelph	85,000 00	18,862 31	....	....	1,248 22	363 64
4	Hamilton	103,574 69	147,246 81	....	3,021 70	26,753 55	15,288 43
5	Kingston	68,000 00	23,847 02	....	....	1,250 00	104 34
6	London	985,000 00	111,218 83	....	30,976 22	5,753 16	901 61
7	Ottawa	81,418 04	136,783 42	....	....	221 00	4,944 23
8	St. Catharines	106,646 85	37,214 97	....	3,350 86	1,854 73	1,760 67
9	St. Thomas	22,500 00	14,191 17	....	5,686 36	1,530 27	161 00
10	Stratford	59,000 00	17,585 95	....	16,438 38	1,610 61	....
11	Toronto	397,145 89	481,003 83	440,858 00	....	34,244 40	64,971 79
	Totals	1,932,794 09	1,029,335 32	443,640 40	64,599 55	78,223 36	88,634 96

*Including $1,782.40, debentures of other municipalities.

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

Assets and Liabilities for the City Municipalities, etc.—*Continued.*

Expenditure—*Continued.*		Balance December 31, 1887.	Assets.				Number.
Miscellaneous.	Total.		Land, buildings, furniture, etc.	Stock in public works.	Debentures.	Other investments.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
4,481 45	132,794 22	381 81	217,100 00	25,200 00	....	2,913 04	1
14,460 52	101,298 64	....	225,600 00	....	34,272 80	18,671 42	2
130,269 18	1,041,837 12	513 85	356,200 00	2,000 00	115,000 00	5,320 84	3
140,594 03	926,485 29	49,318 72	518,374 73	1,930,598 63	....	19,619 76	4
7,674 34	385,912 69	3,131 22	246,577 33	142,531 31	....	2,105 92	5
111,229 02	1,472,480 88	18,536 70	700,705 71	856,378 00	68,212 89	113,178 92	6
133,882 18	693,906 11	229,908 00	407,660 00	1,284,127 43	126,163 33	....	7
10,246 24	252,374 19	13,156 57	205,568 24	376,558 74	....	87,056 82	8
174 05	433,479 10	8,250 05	149,822 00	34,000 00	48,933 00	24,087 26	9
60,410 00	214,606 85	14,487 71	129,900 00	....	....	9,798 25	10
502,217 07	3,712,832 41	299,745 47	9,000,000 00	1,561,346 52	980,533 91	....	11
1,115,638 08	9,368,007 50	637,430 10	12,157,508 01	6,212,740 63	1,373,115 93	*282,752 23	

*Including $611.80 in mortgages held by Brantford.

Assets and Liabilities for the City Municipalities, etc.—*Continued.*

Expenditure—*Continued.*		Balance December 31, 1886.	Assets.				Number.
Miscellaneous.	Total.		Land, buildings, furniture, etc.	Stock in public works.	Debentures.	Other investments.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
6,192 08	116,234 21	495 98	176,000 00	25,200 00	....	17,856 93	1
11,181 94	87,403 52	2,000 62	225,600 00	....	36,600 00	19,037 92	2
20,602 18	202,768 99	665 31	341,200 00	....	....	21,767 87	3
136,906 24	825,678 92	30,222 18	492,440 41	1,858,100 61	....	16,473 86	4
6,989 28	205,319 45	5,039 28	244,077 33	20,000 00	....	2,012 00	5
37,365 19	1,351,907 80	30,314 26	640,687 12	1,281,570 92	38,690 64	104,009 25	6
51,317 54	618,344 56	197,780 35	333,910 00	1,163,459 11	126,163 33	....	7
9,077 71	232,090 70	836 25	195,668 24	371,826 44	....	83,976 51	8
4,600 00	99,408 74	26,106 25	129,565 00	34,000 00	48,933 00	17,400 90	9
23,158 51	185,129 02	2,726 21	105,750 00	....	....	8,543 48	10
488,563 65	3,416,543 40	286,100 52	8,500,000 00	1,384,130 52	762,092 91	....	11
795,954 32	7,340,829 31	582,287 21	11,384,898 10	6,138,287 60	1,012,479 88	*291,078 72	

*Including $1,011.80 in mortgages held by Brantford.

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

TABLE No. XIII.—Detailed statement of Receipts, Expenditure,

Number.	Cities.	ASSETS—*Continued.*					
		Uncollected taxes for 1887.	Other arrears of taxes (estimated).	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville	26,834 75	....	370 21	11 60	16,165 97	288,595 57
2	Brantford	551 22	257 94	....	....	....	279,353 38
3	Guelph	6,993 44	1,000 00	513 85	....	....	487,028 13
4	Hamilton	147,299 04	28,531 97	24 61	49,294 11	202,656 18	2,896,399 03
5	Kingston	17,233 04	4,581 09	1,250 87	1,880 35	3,763 49	419,923 40
6	London	189,026 94	7,134 29	2,639 39	15,897 31	587,202 51	2,540,375 96
7	Ottawa	231,600 00	....	....	229,908 00	48,715 07	2,328,173 83
8	St. Catharines	21,960 17	3,306 37	429 42	12,727 15	42,576 55	750,183 46
9	St. Thomas	31,715 00	400 97	....	8,250 05	....	297,208 28
10	Stratford	12,095 97	753 20	....	14,487 71	611 44	167,646 57
11	Toronto	160,046 94	20,405 00	1,366 57	298,378 90	1,068,761 60	13,090,839 44
	Totals	845,356 51	66,370 83	6,594 92	630,835 18	1,970,452 81	23,545,727 05

TABLE No. XIV.—Detailed statement of Receipts, Expenditure

Number.	Cities.	ASSETS—*Continued.*					
		Uncollected taxes for 1886.	Other arrears of taxes (estimated).	Cash in hand of treasurer.	Cash at credit in bank.	Miscellaneous.	Total.
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	Belleville	25,566 09	19,107 51	465 24	30 74	19,288 48	283,514 99
2	Brantford	1,777 71	168 80	....	2,000 62	40 00	285,225 05
3	Guelph	7,184 67	1,000 00	665 31	....	....	371,817 85
4	Hamilton	365,862 95	31,856 82	13 15	30,209 03	160,372 28	2,955,329 11
5	Kingston	15,236 80	3,523 09	97 20	4,942 08	1,833 75	291,722 25
6	London	168,965 87	7,526 25	4,956 17	25,358 09	89,808 10	2,361,572 41
7	Ottawa	217,750 00	....	....	197,780 35	52,311 38	2,091,374 17
8	St. Catharines	23,136 76	4,219 97	....	836 25	29,242 63	708,906 80
9	St. Thomas	12,604 88	282 13	26,106 25	....	1,532 81	270,424 97
10	Stratford	10,450 18	850 43	....	2,726 21	9,361 52	137,681 82
11	Toronto	95,179 49	43,893 48	896 10	285,204 42	678,802 88	11,750,199 80
	Totals	943,715 40	112,428 48	33,199 42	549,087 79	1,042,593 83	21,507,769 22

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

Assets and Liabilities of the City Municipalities, etc.—*Continued.*

LIABILITIES.							
Local school rates.	Debentures outstanding for— Aid to railways.	Debentures outstanding for— All other objects.	Coupons on debentures due and unpaid.	Loans for current expenditure and interest on same.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1,839 15	175,000 00	212,000 00	1,967 50	22,716 71	6,527 81	420,051 17	1
....	....	261,193 34	....	2,539 61	....	263,732 95	2
....	....	194,439 50	....	160,000 00	....	354,439 50	3
....	48,220 00	2,430,112 22	515 13	30,095 76	53,139 83	2,562,082 94	4
....	211,800 00	299,616 71	9,470 50	....	11,124 77	532,011 98	5
25,822 39	175,000 00	1,744,523 47	168 00	190,000 00	41,422 90	2,176,936 76	6
21,445 24	....	2,450,949 76	....	204,140 61	80,952 50	2,757,488 11	7
708 48	79,813 88	658,916 98	3,212 00	33,042 44	16,352 71	792,046 49	8
13,689 85	168,814 00	99,267 53	....	....	7,802 17	289,573 55	9
2,921 05	145,000 00	198,510 13	....	21,000 00	11,431 25	378,862 43	10
3,341 32	1,179,610 00	8,715,013 21	171,992 09	432,401 24	1,383,487 33	11,885,845 19	11
69,767 48	2,183,257 88	17,264,542 85	187,325 22	1,095,936 37	1,612,241 27	22,413,071 07	

Assets and Liabilities of the City Municipalities, etc.—*Continued.*

LIABILITIES.							
Local school rates.	Debentures outstanding for— Aid to railways.	Debentures outstanding for— All other objects.	Coupons on debentures due and unpaid.	Loans for current expenditure and interest on same.	Miscellaneous.	Total.	Number.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1,167 15	175,000 00	230,000 00	1,001 50	20,893 81	2,663 34	430,725 80	1
24 84	....	266,718 89	....	....	351 00	267,094 73	2
....	....	214,639 50	....	35,000 00	....	249,639 50	3
....	58,220 00	2,385,445 47	443 04	171,973 69	73,355 11	2,689,437 31	4
189 59	220,300 00	158,616 71	9,468 50	....	13,435 30	402,010 10	5
24,573 74	100,000 00	1,679,523 47	417 43	200,000 00	36,893 43	2,041,408 07	6
29,152 84	....	2,329,197 32	....	138,300 71	71,308 60	2,567,959 47	7
1,291 81	79,813 88	620,323 62	....	22,556 76	13,799 21	737,785 28	8
13,189 85	170,744 56	63,490 90	....	6,200 00	4,400 00	258,025 31	9
4,432 13	85,000 00	183,872 00	....	10,000 00	10,687 00	293,991 13	10
3,042 32	1,179,610 00	7,665,353 81	158,392 58	331,381 22	925,448 21	10,263,228 14	11
77,064 27	2,068,688 44	15,797,181 69	169,723 05	936,306 19	1,152,341 20	20,201,304 84	

FINANCIAL STATEMENT.

TABLE No. XV.—Comparative summary statement by Counties of Receipts (taxes and all other), Expenditure, Assets and Liabilities (bonded and floating) of the municipalities in the Province of Ontario, classified by counties, townships, cities, and towns and villages, for the calendar years 1886 and 1887.

Municipalities.		Receipts.			Expenditure.	Assets.	Liabilities.		
		Taxes.	Other *revenue.	Total.			Bonded.	Floating.	Total.
		$	$	$	$	$	$	$	$
ESSEX:									
County...	1887	30,041	38,183	68,224	55,915	90,940	36,263	7,710	43,973
	1886	29,766	67,576	97,342	88,349	87,858	39,334	6,042	45,376
Townships	1887	169,566	107,058	276,624	254,727	170,889	341,897	55,406	397,303
	1886	135,067	142,335	277,402	259,208	177,080	354,329	68,078	422,407
Towns and villages	1887	105,554	182,151	287,705	279,982	444,700	495,308	57,462	552,770
	1886	79,793	161,089	240,882	232,387	454,610	458,198	63,048	521,246
Totals..	1887	305,161	327,392	632,553	590,624	706,529	873,468	120,578	994,046
	1886	244,626	371,000	615,626	579,944	719,548	851,861	137,168	989,029
KENT:									
County...	1887	35,258	42,302	77,560	77,560	74,877	163,551	28,804	192,355
	1886	31,317	27,631	58,948	58,948	73,855	111,855	22,578	134,433
Townships	1887	204,273	179,042	383,315	357,438	122,298	369,039	102,350	471,389
	1886	188,964	156,193	345,157	325,191	103,667	282,649	103,994	386,643
Towns and villages	1887	97,860	294,801	392,661	385,828	322,639	360,682	114,007	474,689
	1886	82,651	203,690	286,341	283,700	292,422	330,797	110,317	441,114
Totals..	1887	337,391	516,145	853,536	820,826	519,814	893,272	245,161	1,138,433
	1886	302,932	387,514	690,446	667,839	469,944	725,301	236,889	962,190
ELGIN:									
County...	1887	53,805	42,271	96,076	75,601	140,121	40,000	17,007	57,007
	1886	26,069	72,645	98,714	97,427	128,962	50,000	10,989	60,989
Townships	1887	141,636	78,630	220,266	207,017	32,593	75,133	22,323	97,456
	1886	136,269	46,042	182,311	163,685	38,930	54,504	30,716	85,220
Town and villages	1887	13,293	48,695	61,988	60,990	62,920	40,319	17,596	57,915
	1886	12,815	29,447	42,262	41,511	61,893	35,746	3,123	38,869
City of St. Thomas	1887	43,032	397,407	440,439	432,189	297,208	268,082	21,492	289,574
	1886	60,504	63,700	124,204	98,098	270,425	234,235	23,790	258,025
Totals..	1887	251,766	567,003	818,769	775,797	532,842	423,534	78,418	501,952
	1886	235,657	211,834	447,491	400,721	500,210	374,485	68,618	443,103
NORFOLK:									
County...	1887	17,714	20,370	38,084	36,436	45,876	....	207	207
	1886	19,545	17,697	37,242	37,180	36,140	....	177	177
Townships	1887	78,869	21,716	100,585	97,123	49,538	26,407	18,998	45,405
	1886	80,104	13,338	93,442	88,897	49,608	30,100	13,910	44,010
Town and villages	1887	21,891	8,407	30,298	26,835	73,844	58,182	4,166	62,348
	1886	21,340	19,758	41,098	36,141	75,341	58,829	4,648	63,477
Totals..	1887	118,474	50,493	168,967	160,394	169,258	84,589	23,371	107,960
	1886	120,989	50,793	171,782	162,218	161,089	88,929	18,735	107,664

NOTE.—The amounts entered as taxes in counties are the rates from local municipalities, and therefore duplicated in totals. Similar cross entries will necessarily appear in several other items of a reciprocal nature.

* Including balances, proceeds from sale of debentures and moneys borrowed for current expenditure, but excluding, except in counties, amounts received from Government on account of schools.

FINANCIAL STATEMENT.

TABLE No. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.		Receipts.			Expenditure.	Assets.	Liabilities.		
		Taxes.	Other revenue.	Total.			Bonded.	Floating.	Total.
		$	$	$	$	$	$	$	$
HALDIMAND:									
County ..	1887	21,356	13,330	34,686	26,057	53,487	44,000	....	44,000
	1886	27,796	12,091	39.887	33,016	45,040	48,000	....	48,000
Townships	1887	76,364	15,308	91,672	86,090	27,670	7,870	2,123	9,993
	1886	71,357	18,415	89,772	82,478	28,929	8,920	3,811	12,731
Villages .	1887	16,928	15,958	32,886	29,741	23,153	20,325	6,995	27,320
	1886	16,329	13,302	29,631	24,840	23,191	21,480	5,753	27,233
Totals..	1887	114,648	44,596	159,244	141,888	104,310	72,195	9,118	81,313
	1886	115,482	43,808	159,290	140,334	97,160	78,400	9.564	87,964
WELLAND:									
County ...	1887	26,656	26,054	52,710	52,554	80,190	....	10,226	10,226
	1886	21,041	30,862	51,903	45,458	85,572	....	18,000	18,000
Townships	1887	63.414	22,526	85,940	79,734	77,609	7,023	9.696	16,719
	1886	57,205	18,860	76,065	69,004	72,628	7,935	6,306	14,241
Towns and villages	1887	62,970	40,113	103,083	98,920	196,258	72,077	13,893	85,970
	1886	60,486	44,399	104.885	99,393	189,137	69,000	8,271	77,271
Totals..	1887	153,040	88,693	241,733	231,208	354,057	79,100	33,815	112,915
	1886	138,732	94,121	232,853	213,855	347,337	76,935	32,577	109,512
LAMBTON:									
County ...	1887	25,781	50,608	76,389	71,436	34,953	2,800	....	2,800
	1886	32,934	36,800	69,734	62,813	40,197	4,200	....	4,200
Townships	1887	191,705	83,896	275.601	262,582	94,010	183,555	149,203	332,763
	1886	187,760	70,614	258,374	241,554	88,465	201,437	147,151	348,588
Towns and villages	1887	96,311	147,401	243,712	235,372	217,157	289,231	52,957	342.188
	1886	92,373	148,932	241,305	231,594	227,588	261,921	45,233	307,154
Totals..	1887	313,797	281,905	595,702	569,390	346,120	475,586	202,165	677,751
	1886	313,067	256.346	569,413	535,961	356,250	467,558	192,384	659,942
HURON:									
County ...	1887	64,654	49,891	114,545	110,971	205,153	282,800	19,229	302,029
	1886	70,889	30,523	101,412	99,496	178,971	282,800	6,444	289,244
Townships	1887	200,447	68,937	269,384	245,360	160,907	167,215	25,634	192,849
	1886	201,384	56,534	257,918	233,342	155,901	168,685	22,479	191,164
Towns and villages	1887	74,166	77,582	151,748	140,271	180,895	198,245	11,452	209,697
	1886	77,577	60,533	138,110	124,730	159,113	184,663	11,737	196,400
Totals..	1887	339,267	196,410	535,677	496,602	546,955	648,260	56,315	704,575
	1886	349,850	147,590	497,440	457,568	493,985	636,148	40,660	676,808
BRUCE:									
County ...	1887	63,902	90,666	154,568	149,477	149,986	113,000	830	113,830
	1886	79,215	49,899	129,114	120,015	123.403	113,000	3,127	116,127
Townships	1887	175,893	63,212	239,105	214,416	150,320	231,774	17,848	249,622
	1886	170,921	77,178	248,099	217,129	157,062	232,218	21,785	254,003
Towns and villages	1887	65,926	44,247	110,173	106,046	155,321	142,200	32,118	174,318
	1886	60,512	41,276	101,788	97,496	145,675	127,463	33,249	160,712
Totals..	1887	305,721	198,125	503,846	469,939	455,627	486,974	50,796	537,770
	1886	310,648	168,353	479,001	434,640	426,140	472,681	58,161	530,842

FINANCIAL STATEMENT.

TABLE No. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.		Receipts.			Expenditure.	Assets.	Liabilities.		
		Taxes.	Other revenue.	Total.			Bonded.	Floating.	Total.
		$	$	$	$	$	$	$	$
GREY:									
County...	1887	45,129	61,572	106,701	75,454	317,196	249,000	18,497	267,497
	1886	46,293	85,000	131,293	97,508	303,210	249,000	19,164	268,164
Townships	1887	195,996	57,520	253,516	237,814	292,208	385,530	23,799	409,329
	1886	197,868	68,406	266,274	245,344	286,515	382,606	25,031	407,637
Towns....	1887	53,569	50,744	104,313	90,146	161,885	164,205	34,675	198,880
	1886	52,833	30,228	83,061	70,556	145,610	165,600	19,938	185,538
Totals..	1887	294,694	169,836	464,530	403,414	771,289	798,735	76,971	875,706
	1886	296,994	183,634	480,628	413,408	735,335	797,206	64,133	861,339
*SIMCOE:									
County...	1887	69,241	77,794	147,035	107,451	425,654	228,500	6,497	234,997
	1886	78,563	74,818	153,381	114,297	431,230	248,200	15,602	263,802
Townships	1887	203,165	33,846	237,011	219,543	118,477	160,300	47,862	208,162
	1886	203,149	33,380	236,529	219,941	124,452	165,730	56,155	221,885
Towns and villages	1887	98,377	130,975	229,352	215,860	324,486	277,083	28,575	305,658
	1886	104,076	70,907	174,983	159,527	291,239	249,884	21,963	271,847
Totals..	1887	370,783	242,615	613,398	542,854	868,617	665,883	82,934	748,817
	1886	385,788	179,105	564,893	493,765	846,921	663,814	93,720	757,534
MIDDLESEX:									
County...	1887	82,345	67,270	149,615	149,134	220,328	526,900	32,993	559,893
	1886	86,460	45,274	131,734	129,124	221,733	526,900	47,076	573,976
Townships	1887	248,568	67,708	316,276	293,002	159,436	73,634	81,950	155,584
	1886	272,158	68,446	340,604	307,397	164,274	71,297	74,741	146,038
Towns and villages	1887	42,166	49,558	91,724	89,563	103,726	70,475	16,938	87,413
	1886	44,941	71,813	116,754	111,757	104,913	71,324	15,398	86,722
City of London	1887	256,723	1,229,556	1,486,279	1,467,742	2,540,376	1,919,523	257,414	2,176,937
	1886	304,376	1,072,917	1,377,293	1,346,979	2,361,572	1,779,523	261,885	2,041,408
Totals..	1887	629,802	1,414,092	2,043,894	1,999,441	3,023,866	2,590,532	389,295	2,979,827
	1886	707,935	1,258,450	1,966,385	1,895,257	2,852,492	2,449,044	399,100	2,848,144
OXFORD:									
County...	1887	51,840	84,082	135,922	95,348	504,292	233,400	110,532	343,932
	1886	57,936	66,847	124,783	82,190	470,862	240,100	91,585	331,685
Townships	1887	143,031	55,922	198,953	179,052	77,857	44,659	20,261	64,920
	1886	142,314	56,751	199,065	179,220	76,779	44,854	10,290	55,144
Towns and villages	1887	82,877	244,408	327,285	321,551	439,963	319,396	100,329	419,725
	1886	81,499	237,819	319,318	316,224	366,816	285,696	64,491	350,187
Totals..	1887	277,748	384,412	662,160	595,951	1,022,112	597,455	231,122	828,577
	1886	281,749	361,417	643,166	577,634	914,457	570,650	166,366	737,016
BRANT:									
County...	1887	16,167	35,069	51,236	40,124	91,112	15,300	....	15,300
	1886	19,154	20,036	39,190	30,052	109,138	....	....	....
Townships	1887	61,507	22,243	83,750	82,964	93,228	14,948	4,713	19,661
	1886	58,038	35,597	93,635	92,457	93,833	17,176	2,311	19,487
Town	1887	21,156	9,552	30,708	28,630	45,991	42,780	311	43,091
	1886	19,680	9,755	29,435	28,772	43,570	43,723	404	44,127
City of Brantford	1887	77,123	22,702	99,825	99,825	279,353	261,193	2,540	263,733
	1886	72,393	15,570	87,963	85,962	285,225	266,719	376	267,095
Totals..	1887	175,953	89,566	265,519	251,543	509,684	334,221	7,564	341,785
	1886	169,265	80,958	250,223	237,243	531,766	327,618	3,091	330,709

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* The local municipalities of Muskoka and Parry Sound, attached to Simcoe for municipal purposes, are not included here.

FINANCIAL STATEMENT.

TABLE NO. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.		Receipts.			Expenditure.	Assets.	Liabilities.		
		Taxes.	Other revenue.	Total.			Bonded.	Floating.	Total.
		$	$	$	$	$	$	$	$
PERTH:									
County ...	1887	52,737	71,474	124,211	121,234	153,670	257,980	30,780	288,760
	1886	51,384	71,796	123,180	114,302	102,183	261,873	5,550	267,423
Townships	1887	157,911	38,683	196,594	183,833	58,216	141,205	15,521	156,726
	1886	153,782	50,309	204,091	197,751	57,723	153,828	16,312	170,140
Towns and village	1887	45,949	90,405	136,354	135,385	132,819	149,296	21,249	170,545
	1886	52,148	86,601	138,749	138,326	139,063	149,291	19,738	169,029
City of Stratford	1887	54,184	173,927	228,111	213,624	167,647	343,510	35,352	378,862
	1886	50,051	136,852	186,903	184,177	137,682	268,872	25,119	293,991
Totals..	1887	310,781	374,489	685,270	654,076	512,352	891,991	102,902	994,893
	1886	307,365	345 558	652,923	634,556	436,651	833,864	66,719	900,583
WELLINGTON:									
County ...	1887	59,068	51,643	110,711	110,272	131,101	67,900	31,774	99,674
	1886	65,050	49,625	114,675	110,665	130,186	85,700	31,389	117,089
Townships	1887	153,582	45,810	199,392	179,872	116,982	83,768	26,255	110,023
	1886	175,389	48,600	223,989	208,755	105,071	86,994	18,105	105,099
Towns and villages	1887	56,620	50,696	107,316	94,285	142,868	202,435	20,409	222,844
	1886	57,243	67,303	124,546	111,373	141,837	196,340	25,549	221,889
City of Guelph	1887	61,316	977,659	1,038,975	1,038,461	487,028	194,440	160,000	354,440
	1886	61,221	139,820	201,041	200,376	371,818	214,640	35,000	249,640
Totals..	1887	330,586	1,125,808	1,456,394	1,422,890	877,979	548,543	238,438	786,981
	1886	358,903	305,348	664,251	631,169	748,912	583,674	110,043	693,717
WATERLOO:									
County ...	1887	36,672	31,040	67,712	65,727	97,138	67,300	4,400	71,700
	1886	37,451	31,593	69,044	62,198	98,331	74,700	4,400	79,100
Townships	1887	94,406	40,882	135,288	129,259	65,973	22,875	3,020	25,895
	1886	95,241	40,827	136,068	123,733	73,987	17,993	5,115	23,108
Towns and villages	1887	91,672	102,366	194,038	184,204	286,847	186,015	34,553	220,568
	1886	73,485	74,305	147,790	138,753	274,650	184,512	19,775	204,287
Totals..	1887	222,750	174,288	397,038	378,190	449,958	276,190	41,973	318,163
	1886	206,177	146,725	352,902	324,684	446,968	277,205	29,290	306,495
DUFFERIN:									
County ...	1887	26,163	17,088	43,251	42,796	45,960	36,000	4,953	40,953
	1886	14,138	21,669	35,807	35,553	53,641	37,300	11,314	48,614
Townships	1887	88,789	24,358	113,147	107,563	59,043	121,819	29,487	151,306
	1886	73,441	20,322	93,763	84,442	74,194	123,951	48,123	172,074
Town and village	1887	17,501	20,500	38,001	37,800	61,008	83,725	11,868	95,593
	1886	17,237	40,915	58,152	57,896	61,877	82,826	10,636	93,462
Totals..	1887	132,453	61,946	194,399	188,159	166,011	241,544	46,308	287,852
	1886	104,816	82,906	187,722	177,891	189,712	244,077	70,073	314,150
LINCOLN:									
County ...	1887	21,355	44,741	66,096	62,886	108,744	30,600	10,465	41,065
	1886	22,140	37,779	59,919	55,383	105,765	15,300	15,412	30,712
Townships	1887	58,218	8,657	66,875	63,412	12,732	....	8,256	8,256
	1886	58,759	7,685	66,444	62,223	12,023	2,773	4,059	6,832
Town and villages	1887	22,169	68,410	90,579	89,241	99,926	73,422	2,709	76,131
	1886	22,300	8,009	30,309	29,184	37,326	14,690	2,696	17,386
City of St. Catharines	1887	100,118	164,405	264,523	251,366	750,183	738,731	53,315	792,046
	1886	95,963	135,966	231,929	231,093	708,907	700,138	37,647	737,785
Totals.	1887	201,860	286,213	488,073	466,905	971,585	842,753	74,745	917,498
	1886	199,162	189,439	388,601	377,883	864.021	732,901	59,814	792,715

FINANCIAL STATEMENT.

TABLE No. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.		Receipts.			Expenditure.	Assets.	Liabilities.		
		Taxes.	Other revenue.	Total.			Bonded.	Floating.	Total.
		$	$	$	$	$	$	$	$
WENTWORTH:									
County...	1887	16,259	59,291	75,550	47,302	290,370	71,000	7,502	78,502
	1886	22,114	51,950	74,064	47,787	289,118	75,000	8,014	83,014
Townships	1887	72,168	36,923	109,091	94,158	144,294	4,946	7,384	12,330
	1886	71,861	32,496	104,357	88,977	141,698	6,272	4,092	10,364
Town and village	1887	20,793	16,062	36,855	33,354	85,068	64,946	6,393	71,339
	1886	34,063	7,809	41,872	34,621	92,556	66,939	8,692	75,631
City of Hamilton	1887	600,096	368,338	968,434	919,115	2,896,399	2,478,332	83,751	2,562,083
	1886	356,352	492,916	849,268	819,046	2,955,329	2,443,665	245,772	2,689,437
Totals..	1887	709,316	480,614	1,189,930	1,093,929	3,416,131	2,619,224	105,030	2,724,254
	1886	484,390	585,171	1,069,561	990.431	3,478,701	2,591,876	266,570	2,858,446
HALTON:									
County...	1887	25,815	32,502	58,317	40,156	124,478	100,500	212	100,712
	1886	35,274	33,673	68,947	55,074	112,445	105,300	154	105,454
Townships	1887	61,510	15,768	77,278	75,797	77,954	....	3,219	3,219
	1886	62,080	10,581	72,661	70,213	77,897	....	2,521	2,521
Towns and villages	1887	26,231	13,114	39,345	35,881	80,942	69,962	2,883	72,845
	1886	25,742	22,386	48,128	43,870	76,419	67,845	2,570	70,415
Totals..	1887	113,556	61,384	174,940	151,834	283,374	170,462	6,314	176,776
	1886	123,096	66,640	189,736	169,157	266,761	173,145	5,245	178,390
PEEL:									
County...	1887	22,864	19,592	42,456	39,492	56,224	30,000	2,252	32,252
	1886	21,399	19,379	40,778	38,853	53,411	35,500	68	35,568
Townships	1887	70,996	26,270	97,266	88,176	99,688	26,720	5,184	31,904
	1886	68,326	28,092	96,418	94,178	94,334	31,440	....	31,440
Town and villages	1887	22,379	19,339	41,718	38,406	197,387	146,714	11,799	158,513
	1886	21,538	18,686	40,224	38,570	183,902	150,161	4,801	154,962
Totals..	1887	116,239	65,201	181,440	166,074	353,299	203,434	19,235	222,669
	1886	111,263	66,157	177,420	171,601	331,647	217,101	4,869	221,970
YORK:									
County...	1887	35,060	54,062	89,122	89,122	195,665	40,210	17,192	57,402
	1886	36,888	68,115	105,003	104,755	193,216	44,300	8,462	52,762
Townships	1887	163,052	62,778	225,830	209,931	255,545	79,614	36,479	116,093
	1886	148,371	81,207	229,578	211,615	248,810	78,546	27,635	106,181
Towns and villages	1887	91,238	405,863	497,101	478,709	621,430	524,291	144,731	669,022
	1886	75,453	191,427	266,880	232,743	418,329	341,580	117,530	459,110
City of Toronto	1887	1,416,269	2,583,424	3,999,693	3,699,948	13,090,839	9,894,623	1 991,222	11,885,845
	1886	1,289,395	2,400,609	3,690,004	3,403,903	11,750,200	8,844,964	1,418,264	10,263,228
Totals..	1887	1,705.619	3,106,127	4,811,746	4,477,710	14,163,479	10,538,738	2,189,624	12,728,362
	1886	1,550,107	2,741,358	4,291,465	3,953,016	12,610,555	9,309,390	1,571,891	10,881,281
ONTARIO:									
County...	1887	20,022	32,220	52,242	52,242	66,797	20,000	876	20,876
	1886	17,859	34,823	52,682	52,682	59,869	20,000	5,210	25,210
Townships	1887	116,885	52,976	169,861	164,920	103,550	137,941	11,202	149,143
	1886	113,343	32,677	146,020	137,929	103,192	140,593	8,043	148,636
Towns and villages	1887	67,016	88,825	155,841	148,434	214,814	203,883	35,263	239,146
	1886	67,417	65,517	128,934	125,251	192,474	189,124	24,538	213,662
Totals..	1887	203,923	174,021	377,944	365,596	385,161	361,824	47,341	409,165
	1886	194,619	133,017	327,636	315,862	355,535	349,717	37,791	387,508

FINANCIAL STATEMENT.

TABLE NO. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.	Receipts.			Expenditure.	Assets.	Liabilities.		
	Taxes.	Other revenue.	Total.			Bonded.	Floating.	Total.
DURHAM AND N'RTHUMBERL'D:	$	$	$	$	$	$	$	$
Counties (united) 1887	23,098	33,186	56,284	38,494	71,880	....	....	....
1886	21,008	28,322	49,330	34,528	70,982	....	....	....
Townships 1887	154,096	32,194	186,290	171,145	107,525	43,251	14,179	57,430
1886	153,762	38,693	192,455	177,118	106,414	48,390	12,017	60,407
Towns and villages 1887	108,113	135,526	243,639	233,437	365,004	422,598	52,067	474,665
1886	109,715	178,801	288,516	265,107	401,370	491,130	45,290	536,420
Totals.. 1887	285,307	200,906	486,213	443,076	544,409	465,849	66,246	532,095
1886	284,485	245,816	530,301	476,753	578,766	539,520	57,307	596,827
PRINCE EDW'RD:								
County... 1887	26,804	22,527	49,331	49,004	49,934	89,469	1,333	90,802
1886	5,161	35,615	40,776	37,377	61,892	73,640	32,283	105,923
Townships 1887	49,904	17,401	67,305	64,838	60,700	300	11,270	11,570
1886	54,822	16,185	71,007	64,762	69,347	400	18,163	18,563
Town and village 1887	22,093	12,252	34,845	33,964	37,586	16,470	4,851	21,321
1886	15,277	27,309	42,586	41,328	44,898	17,559	12,879	30,438
Totals.. 1887	98,801	52,180	150,981	147,806	148,220	106,239	17,454	123,693
1886	75,260	79,109	154,369	143,467	176,137	91,599	63,325	154,924
LENNOX AND ADDINGTON:								
Counties (united) 1887	40,617	7,990	48,607	47,572	78,910	148,400	2,602	151,002
1886	27,506	32,626	60,132	60,084	80,436	151,100	3,234	154,334
Townships 1887	67,240	35,165	102,405	96,324	101,280	34,035	22,214	56,249
1886	69,685	18,145	87,830	83,288	98,731	34,894	20,231	55,125
Town and villages 1887	26,497	10,307	36,804	32,006	55,428	66,900	260	67,160
1886	21,631	7,622	29,253	27,873	53,508	67,700	398	68,098
Totals.. 1887	134,354	53,462	187,816	175,902	235,618	249,335	25,076	274,411
1886	118,822	58,393	177,215	171,245	232,675	253,694	23,863	277,557
FRONTENAC:								
County... 1887	30,879	34,213	65,092	62,811	161,731	232,000	55,055	287,055
1886	28,020	39,246	67,266	62,994	163,655	232,000	56,368	288,368
Townships 1887	70,425	14,607	85,032	80,963	57,277	840	23,304	24,144
1886	70,075	21,129	91,204	88,481	63,170	1,040	21,920	22,960
Villages .. 1887	4,104	171	4,275	4,061	4,702	....	1,765	1,765
1886	3,838	390	4,228	4,126	4,509	....	1,548	1,548
City of Kingston 1887	105,163	282,448	387,611	384,480	419,924	511,417	20,595	532,012
1886	106,663	102,141	208,804	203,765	291,722	378,917	23,093	402,010
Totals.. 1887	210,571	331,439	542,010	532,315	643,634	744,257	100,719	844,976
1886	208,596	162,906	371,502	359,366	523,056	611,957	102,929	714,886
LEEDS AND GRENVILLE:								
Counties (united) 1887	20,259	21,645	41,904	38,061	105,831	15,000	1,121	16,121
1886	23,737	40,827	64,564	56,820	106,287	15,000	5,500	20,500
Townships 1887	105,418	33,571	138,989	126,222	120,308	46,010	9,397	55,407
1886	108,529	23,865	132,394	118,027	117,684	41,810	5,087	46,897
Towns and villages 1887	77,649	62,663	140,312	132,579	245,947	156,360	33,270	189,630
1886	85,563	49,634	135,197	126,515	224,799	153,115	20,646	173,761
Totals.. 1887	203,326	117,879	321,205	296,862	472,086	217,370	43,788	261,158
1886	217,829	114,326	332,155	301,362	448,770	209,925	31,233	241,158

FINANCIAL STATEMENT.

TABLE NO. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.	Receipts.			Expenditure.	Assets.	Liabilities.		
	Taxes.	Other revenue.	Total.			Bonded.	Floating.	Total.
DUNDAS, STORMONT AND GLENGARRY :	$	$	$	$	$	$	$	$
Counties (united) 1887	12,270	63,062	75,332	68,076	156,209	25,935	26,787	52,722
1886	16,020	36,791	52,811	50,041	122,770	25,995	3,000	28,995
Townships 1887	123,958	16,310	140,268	134,250	79,241	66,280	42,740	109,020
1886	130,203	21,433	151,636	147,161	70,858	67,245	30,581	97,826
Town and villages 1887	38,302	51,456	89,758	87,762	100,003	134,534	16,286	150,820
1886	37,575	36,773	74,348	73,451	79,457	94,568	7,551	102,119
Totals.. 1887	174,530	130,828	305,358	290,088	335,453	226,749	85,813	312,562
1886	183,798	94,997	278,795	270,653	273,085	187,808	41,132	228,940
PRESCOTT AND RUSSELL :								
Counties (united) 1887	13,315	14,132	27,447	25,725	35,544	3,000	6,451	9,451
1886	10,858	19,878	30,736	27,809	34,951	4,000	8,415	12,415
Townships 1887	61,020	14,676	75,696	70,485	43,909	8,551	25,735	34,286
1886	72,862	19,108	91,970	86,572	52,513	14,806	27,593	42,399
Villages . 1887	7,691	1,305	8,996	8,525	23,228	6,200	2,408	8,608
1886	5,693	835	6,528	6,409	22,589	6,200	2,110	8,310
Totals.. 1887	82,026	30,113	112,139	104,735	102,681	17,751	34,594	52,345
1886	89,413	39,821	129,234	120,790	110,053	25,006	38,118	63,124
CARLETON :								
County ... 1887	21,446	23,077	44,523	36,624	309,758	55,000	....	55,000
1886	20,577	37,485	58,062	54,589	306,770	55,000	. ...	55,000
Townships 1887	88,386	14,368	102,754	101,124	84,560	28,873	41,756	70,629
1886	87,969	19,499	107,468	103,031	83,876	28,143	38,603	66,746
*Villages . 1887	1,316	10	1,326	1,287	2,309	....	1,157	1,157
1886	8,239	14,723	22,962	22,833	3,350	15,241	5,376	20,617
City of Ottawa 1887	230,849	690,929	921,778	691,870	2,328,174	2,450,950	306,538	2,757,488
1886	220,382	593,746	814,128	616,347	2,091,374	2,329,197	238,763	2,567,960
Totals.. 1887	341,997	728,384	1,070,381	830,905	2,724,801	2,534,823	349,451	2,884,274
1886	337,167	665,453	1,002,620	796,800	2,485,370	2,427,581	282,742	2,710,323
RENFREW :								
County .. 1887	13,249	24,972	38,221	35,351	68,594	31,933	6,764	38,697
1886	10,311	38,658	48,969	42,018	70,989	34,427	5,325	39,752
Townships 1887	50,696	10,624	61,320	54,020	35,477	11,553	13,845	25,398
1886	54,701	12,139	66,840	57,190	34,518	12,235	11,132	23,367
Town and villages 1887	36,633	77,337	113,970	105,594	121,161	149,389	16,711	166,100
1886	29,572	17,466	47,038	41,845	117,631	108,370	27,151	135,521
Totals.. 1887	100,578	112,933	213,511	194,965	225,232	192,875	37,320	230,195
1886	94,584	68,263	162,847	141,053	223,138	155,032	43,608	198,640
LANARK :								
County ... 1887	13,526	19,835	33,361	20,825	62,717	....	271	271
1886	12,369	19,924	32,293	20,290	62,575	....	385	385
Townships 1887	58,618	7,626	66,244	61,638	27,222	9,382	1,770	11,152
1886	61,214	7,623	68,837	63,267	27,515	10,537	1,616	12,153
Towns and villages 1887	68,572	55,504	124,076	118,358	211,215	110,657	20,500	131,157
1886	57,965	52,962	110,927	104,236	199,279	111,350	6,300	117,650
Totals.. 1887	140,716	82,965	223,681	200,821	301,154	120,039	22,541	142,580
1886	131,548	80,509	212,057	187,793	289,369	121,887	8,301	130,188

*New Edinburgh annexed to Ottawa in 1887.

FINANCIAL STATEMENT.

TABLE NO. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.		Receipts.			Expenditure.	Assets.	Liabilities.		
		Taxes.	Other revenue.	Total.			Bonded.	Floating.	Total.
*VICTORIA:		$	$	$	$	$	$	$	$
County...	1887	41,772	43,672	85,444	84,869	136,485	85,000	36,937	121,937
	1886	40,144	89,233	129,377	129,180	132,436	85,000	43,428	128.428
Township	1887	92,261	13,341	105,602	99,449	100,601	95,363	31,826	127,189
	1886	96,560	19.135	115,695	109,666	121,297	122,233	36,398	158,631
Town and villages	1887	46,663	24,560	72,223	69,523	113,577	154,097	26,994	181,091
	1886	46,860	29,103	75,963	74,530	116,655	155,413	25,811	181,224
Totals..	1887	181,696	81,573	263,269	253,841	350,663	334,460	95,757	430,217
	1886	183,564	137.471	321,035	313,376	370,388	362,646	105,637	468,283
PETERBOROUGH:									
County...	1887	20,805	31.811	52,616	50,716	139,995	32,000	39,858	71,858
	1886	19,726	22,687	42,413	40,744	132,161	32,000	34,206	66,206
Townships	1887	64,682	9,619	74,301	66,920	40,686	3,454	24,513	27,967
	1886	61,952	9,493	71,445	66,828	35,938	3,919	18,610	22,529
Town and villages	1887	60,596	39,522	100,118	97,210	367,913	189,490	11,026	200.516
	1886	69,382	59,062	128,444	122,954	367,093	188,910	11,772	200,682
Totals..	1887	146,083	80,952	227,035	214,846	548,594	224,944	75,397	300,341
	1886	151,060	91,242	242,302	230,526	535,192	224,829	64,588	289,417
HALIBURTON:									
County...	1887	9,354	17,710	27,064	26,608	10,571	29,160	4,160	33,320
	1886	5,093	21,447	26,540	25,885	11,508	32,008	5,874	37,882
Townships	1887	20,663	6,172	26,835	26,103	11,090	....	10,189	10,189
	1886	24,479	3,405	27,884	25,925	15,393	108	10,326	10,434
Totals..	1887	30,017	23,882	53,899	52,711	24,661	29,160	14,349	43,509
	1886	29,572	24,852	54,424	51,810	26,901	32,116	16,200	48,316
HASTINGS:									
County...	1887	62,200	45,135	107,335	107,165	198,755	105,000	12,105	117,105
	1886	53,949	38,526	92,475	92,464	198,854	105,000	19,761	124,761
Townships	1887	135,719	14,257	149,976	144,842	93,830	65,959	47,912	113,871
	1886	131,533	14,762	146,295	141,478	91,699	69,924	51,988	121,912
Town and villages	1887	41,244	65,261	106,505	104,675	89,471	96,265	21.588	117,853
	1886	28,930	71,335	100,265	96,827	98,778	62,600	58,436	121,036
City of Belleville	1887	72,677	59,415	132,092	131,710	288,596	387,000	33,051	420,051
	1886	69,819	45,826	115,645	115,149	283,515	405,000	25,726	430.726
Totals..	1887	311,840	184,068	495,908	488,392	670,652	654,224	114,656	768,880
	1886	284,231	170,449	454,680	445,918	672,846	642,524	155,911	798,435
MUSKOKA:									
Townships	1887	24,977	7,895	32,872	28,809	19,386	3,855	7,072	10,927
	1886	25,547	7,313	32,860	28,197	18,994	5,018	6,420	11,468
Town and villages	1887	14,569	5,858	20,427	19,072	37,575	25,437	4,513	29,950
	1886	12,413	4,617	17,030	16,921	32,426	26,209	5,400	31,609
Totals..	1887	39,546	13,753	53,299	47,881	56,961	29,292	11,585	40,877
	1886	37,960	11,930	49,890	45,118	51,420	31,257	11,820	43,077

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* The local municipalities of Muskoka attached to Victoria for municipal purposes are not included here. See page 29.

FINANCIAL STATEMENT.

TABLE No. XV.—Comparative summary statement by Counties, etc.—*Continued.*

Municipalities.	Receipts.			Expenditure.	Assets.	Liabilities.		
	Taxes.	Other Revenue.	Total.			Bonded.	Floating.	Total.
PARRY SOUND:	$	$	$	$	$	$	$	$
Townships 1887	12,497	6,415	18,912	17,057	16,146	5,646	8,128	13,774
1886	17,168	5,197	22,365	20,778	11,922	7,949	4,739	12,688
Town...... 1887	16	1,802	1,818	1,602	5,930	... .	8,533	8,533
Totals.. 1887	12,513	8,217	20,730	18,659	22,076	5,646	16,661	22,307
1886	17,168	5,197	22,365	20,778	11,922	7,949	4,739	12,688
ALGOMA:								
Townships 1887	40,338	18,882	59,220	55,609	52,623	23,203	17,024	40,227
1886	37,525	13,644	51,169	47,397	52,923	20,135	14,345	34,480
Towns.... 1887	27,251	49,465	76,716	76,617	77,978	108,106	33,982	142,088
1886	6,728	36,773	43,501	39,931	74,653	91,106	31,103	122,209
Totals.. 1887	67,589	68,347	135,936	132,226	130,601	131,309	51,006	182,315
1886	44,253	50,417	94,670	87,328	127,576	111,241	45,448	156,689
NIPISSING:								
Townships 1887	2,375	1,157	3,532	3,062	2,601	....	1,917	1,917
1886	1,443	730	2,173	1,908	1,091	....	494	494
Village... 1887	2,561	2,392	4,953	4,502	5,852	2,500	1,345	3,845
1886	2,547	1,715	4,262	3,319	6,196	2,500	852	3,352
Totals.. 1887	4,936	3,549	8,485	7,564	8,453	2,500	3,262	5,762
1886	3,990	2,445	6,435	5,227	7,287	2,500	1,346	3,846
THE PROVINCE:								
Counties.. 1887	1,269,498	1,516,082	2,785,580	2,486,648	5,291,226	3,508,901	556,382	4,065,283
1886	1,245,154	1,559,366	2,804,520	2,507,948	5,090,602	3,513,532	548,536	4,062,068
Townships 1887	4,415,224	1,504,949	5,920,173	5,516,643	3,678,479	3,154,427	1,082,969	4,237,396
1886	4,383,180	1,486,383	5,869,563	5,435,737	3,680,935	3,153,646	1,051,026	4,204,672
Towns and villages 1887	1,899,482	2,815,563	4,715,045	4,516,208	6,540,926	5,894,200	1,040,587	6,934,787
1886	1,791,459	2,315,026	4,106,485	3,877,420	6,046,742	5,399,603	906,721	6,306,324
Cities 1887	3,017,550	6,950,210	9,967,760	9,330,330	23,545,727	19,447,801	2,965,270	22,413,071
1886	2,687,119	5,200,063	7,887,182	7,304,895	21,507,769	17,865,870	2,335,435	20,201,305
Totals.. 1887	10,601,754	12,786,804	23,388,558	21,849,829	39,056,358	32,005,329	5,645,208	37,650,537
1886	10,106,912	10,560,838	20,667,750	19,126,000	36,326,048	29,932,651	4,841,718	34,774,369

SCHEDULES TO MUNICIPAL OFFICERS.

EXTRACT FROM THE MUNICIPAL ACT.

(Placed on back of schedules.)

Chapter 29, Statutes of 1887, being an Act to further amend the Municipal Act.

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11. Section 262 of *The Consolidated Municipal Act, 1883*, is repealed and the following substituted in lieu thereof:

262. The auditors shall prepare in duplicate an abstract of the receipts, expenditure, assets and liabilities of the Corporation, and also a detailed statement of the same in such form as the Council directs. They shall make a report on all accounts audited by them and a special report of any expenditure made contrary to law. The auditors shall transmit one copy of the abstract to the secretary of the Bureau of Industries, Toronto, and shall file the other together with the detailed statement and reports in the office of the clerk of the council within one month after their appointment, and thereafter any inhabitant or ratepayer of the municipality may inspect the same at all reasonable hours and may by himself or his agent at his own expense take a copy thereof or extracts therefrom.

12. The treasurer of every municipality shall, on or before the first day of May in each year, under a penalty of $20 in case of default, furnish to the secretary of the Bureau of Industries, Toronto, on schedules or forms furnished by said secretary and approved by the Lieutenant-Governor in Council such information or statistics regarding the finances or accounts of the municipality as such schedules or forms call for.

13. The clerk of every municipality shall in each year, within one week after the final revision of the assessment roll, under a penalty of $20 in case of default, make a return to the secretary of the Bureau of Industries, Toronto, on schedules or forms furnished by the said secretary, and approved by the Lieutenant-Governor in Council, of such statistics or information as the assessment roll or other records of his office afford, and as such schedules or forms call for.

14. The secretary of the Bureau of Industries shall, as soon as may be after the opening of every Session of the Legislature, report to the Minister of Agriculture for the purpose of being laid before the Legislative Assembly, a tabulated statement of all the returns hereinbefore required to be made.

15. The treasurer of the Province shall retain in his hands any moneys payable to any municipality, if it is certified to him by the secretary of the Bureau of Industries that the treasurer or clerk of such municipality has not made the returns hereinbefore required.

[These sections have been further amended by Chapter 36, Statutes of 1889.]

THE CLERK'S DECLARATION.

I certify that the foregoing statement is true and correct in every particular, according to the entries in the Assessment and Collection Rolls of the Municipality.

Date..............................

Post office.............................. ....

Municipal Clerk.

THE TREASURER'S DECLARATION.

I,........................Treasurer of the.................of......................do certify that the annexed is a true abstract statement of the Receipts and Expenditure of the said Municipality for the year 1887, and also a true copy of the Assets and Liabilities of said Municipality for said year.

Date..............................

Post office..............................

....

Treasurer.

1. SCHEDULE TO MUNICIPAL CLERKS.

(Approved by the Lieutenant-Governor in Council, November 12, 1887.)

STATISTICS OF THE MUNICIPALITY OF..............IN THE COUNTY OF ....

FOR THE YEAR 1887.

FROM THE ASSESSMENT ROLL.		FROM THE COLLECTION ROLL.	$	c.
1. Population		1. Assessed value of—		
2. No. of ratepayers on Roll		(1) Real Property		
3. No. of acres assessed as—		(2) Personal Property		
(1) Resident		(3) Taxable Income		
(2) Non-Resident		2. Taxes imposed for—		
4. No. of acres cleared land		(1) County Rates		
5. No. of acres woodland		(2) School Rates		
6. No. of acres swamp, marsh or waste land		(3) Statute labor (in Cities, Towns and Villages)		
7. No. of acres in Orchard and Garden				
8. No. of acres in Fall wheat		(4) Dogs and Bitches		
9. No. of days liable for Statute labor, (in Townships)		(5) All other Rates		
10. No. of Cattle				
11. No. of Sheep				
12. No. of Hogs				
13. No. of Horses				

2. SCHEDULE TO COUNTY TREASURERS.

(Approved by the Lieutenant-Governor in Council, November 12, 1887.)

STATEMENT OF RECEIPTS AND EXPENDITURE, ASSETS AND LIABILITIES OF THE COUNTY OF................FOR THE YEAR 1887.

No.	RECEIPTS.	$	c.	REMARKS.
1.	Balance from 1886			
2.	Rates from local municipalities			
3.	Non-resident taxes collected			
4.	Licenses, various			
5.	Interest on bank deposits and dividends or interest on stock in public works or on other investments			
6.	Received from Government on account of—			
	(1) Schools			
	(2) Administration of Justice			
	(3) Other purposes (except loans)			
7.	Fees, rents, tolls, fines, etc			
8.	Towns or cities separated from counties, for various services			
9.	Refund of moneys loaned or invested			
10.	Money borrowed for current expenditure			
11.	Money borrowed on debentures			
12.	Taken from sinking fund			
13.	Redemption lands sold for taxes			
14.	Miscellaneous*			
	Total receipts			

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* Under the head of "*Miscellaneous*" include all items not named in the schedule, specifying important items in the column for *Remarks.*

2. SCHEDULE TO COUNTY TREASURERS.—*Continued.*

STATEMENT OF RECEIPTS AND EXPENDITURE, ETC.—*Continued.*

No.	EXPENDITURE.	$	c.	REMARKS.
1.	Grants to High, Public and Separate schools			
2.	Other payments on account of schools and education			
3.	Non-resident taxes paid local municipalities			
4.	Roads and bridges			
5.	Buildings and other property			
6.	Expenses of municipal government, viz—			
	(1) Attendance and mileage at meetings of Council and committees thereof			
	(2) Allowances, salaries and commissions			
	(3) Law costs			
	(4) Printing, advertising, postage and stationery			
	(5) Insurance, heating, lighting and care of buildings			
	(6) Other expenses of municipal government			
7.	Administration of Justice (including gaol maintenance, juries and inquests)			
8.	Debentures redeemed			
9.	Refund of money borrowed for current expenditure			
10.	Interest on loans and advances			
11.	Sinking fund investments—			
	(1) Mortgages			
	(2) Debentures of other municipalities			
	(3) Debentures of the municipality			
12.	Redemption money paid lands sold for taxes			
13.	Miscellaneous*			
	Total expenditure			
	Balance December 31, 1887			
	ASSETS: December 31, 1887.			
1.	Land, buildings, furniture, etc			
2.	Stock in public works			
3.	Mortgages			
4.	Debentures			
5.	Other investments			
6.	Due from local municipalities			
7.	Cash in hand of treasurer			
8.	Cash at credit in bank			
9.	Miscellaneous*			
	Total assets			
	LIABILITIES: December 31, 1887.			
1.	School grants unpaid			
2.	Debentures outstanding for—			
	(1) Aid to railways			
	(2) All other objects			
3.	Coupons on debentures due and unpaid			
4.	Loans for current expenditure and interest due on same			
5.	Due to local municipalities for non-resident taxes collected			
6	Miscellaneous*			
	Total liabilities			

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* Under the head of "*Miscellaneous*" include all items not named in the schedule, specifying important items in the column for *Remarks.*

3. SCHEDULE TO TOWNSHIP TREASURERS.

(Approved by the Lieutenant-Governor in Council November 12, 1887.)

STATEMENT OF RECEIPTS AND EXPENDITURE, ASSETS AND LIABILITIES OF THE TOWNSHIP OF .... FOR THE YEAR 1887.

No.	RECEIPTS.	$	c.	REMARKS.
1.	Balance from 1886			
2.	Taxes, municipal and school—			
	(1) per collector			
	(2) per county treasurer (non-resident taxes)			
3.	Licenses, various			
4.	Interest on bank deposits and dividends or interest on stock in public works or on other investments			
5.	Received from Government on account of—			
	(1) Schools			
	(2) Other purposes (except loans)			
6.	Fees, rents, tolls, fines, etc			
7.	Refund of moneys loaned or invested			
8.	Money borrowed for current expenditure			
9.	Money borrowed on debentures—			
	(1) For tile drainage			
	(2) Municipal drainage			
	(3) Other purposes			
10.	Taken from sinking fund			
11.	Miscellaneous*			
	Total receipts			
	EXPENDITURE.			
1.	Taxes paid county treasurer			
2.	School boards on account of school rates			
3.	Other payments on account of schools and education			
4.	Roads and bridges			
5.	Buildings and other property			
6.	Drainage works and expenses of—			
	(1) Tile drainage			
	(2) Other drainage works			
7.	Expenses of municipal government, viz—			
	(1) Election of members of council			
	(2) Allowances, salaries and commissions			
	(3) Law costs			
	(4) Printing, advertising, postage and stationery			
	(5) Insurance, heating, lighting and care of buildings			
	(6) Other expenses of municipal government			
8.	Debentures redeemed			
9.	Refund of money borrowed for current expenditure			
10.	Interest on loans and advances			
11.	Sinking fund investments—			
	(1) Mortgages			
	(2) Debentures of other municipalities			
	(3) Debentures of the municipality			
12.	Sheep killed by dogs			
13.	Support of the poor and other charities			
14.	Board of Health			
15.	Miscellaneous*			
	Total expenditure			
	Balance December 31, 1887			

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* Under the head of "*Miscellaneous*" include all items not named in the schedule, specifying important items in the column for *Remarks.*

3. SCHEDULE TO TOWNSHIP TREASURERS.—*Continued.*

STATEMENT OF RECEIPTS AND EXPENDITURE, ETC.—*Continued.*

No.	ASSETS: December 31, 1887.	$	c.	REMARKS.
1.	Land, buildings, furniture, etc			
2.	Stock in public works			
3.	Mortgages			
4.	Debentures			
5.	Other investments			
6.	Uncollected taxes for 1887			
7.	Other arrears of taxes (estimated)			
8.	Cash in hand of treasurer			
9.	Cash at credit in bank			
10.	Miscellaneous*			
	Total assets			
	LIABILITIES: December 31, 1887.			
1.	County rates			
2.	Local school rates			
3.	Debentures outstanding for—			
	(1) Aid to railways			
	(2) All other objects			
4.	Coupons on debentures due and unpaid			
5.	Loans for current expenditure and interest on same			
6.	Miscellaneous*			
	Total liabilities			

4. SCHEDULE TO CITY, TOWN AND VILLAGE TREASURERS.

(Approved by the Lieutenant-Governor in Council November 12, 1887.

STATEMENT OF RECEIPTS AND EXPENDITURE, ASSETS AND LIABILITIES OF THE MUNICIPALITY OF............FOR THE YEAR 1887.

No.	RECEIPTS.	$	c.	REMARKS.
1.	Balance from 1886			
2.	Taxes, municipal and school—			
	(1) per collector			
	(2) Non-resident taxes			
3.	Licenses, various			
4.	Interest on bank deposits and dividends or interest on stock in public works or on other investments			
5.	Received from Government on account of—			
	(1) Schools			
	(2) Administration of Justice			
	(3) Other purposes (except loans)			
6.	Fees, rents, tolls, fines, etc			
7.	Refund of moneys loaned or invested			
8.	Money borrowed for current expenditure			
9.	Money borrowed on debentures			
10.	Taken from sinking fund			
11.	Miscellaneous*			
	Total receipts			

---

* Under the head of "*Miscellaneous*" include all items not named in the schedule, specifying important items in the column for *Remarks.*

4. SCHEDULE TO CITY, TOWN AND VILLAGE TREASURERS.—*Continued.*

STATEMENT OF RECEIPTS AND EXPENDITURE, ETC.—*Continued.*

No.	EXPENDITURE.	$	c.	REMARKS.
1.	Taxes paid county treasurer			
2.	School boards on account of school rates			
3.	Other payments on account of schools and education			
4.	Streets, bridges and parks			
5.	Buildings and other property			
6.	Expenses of municipal government, viz—			
	(1) Election of members of council			
	(2) Allowances, salaries and commissions			
	(3) Law costs			
	(4) Printing, advertising, postage and stationery			
	(5) Insurance, heating, lighting and care of buildings			
	(6) Lighting of streets			
	(7) Water supply and fire protection			
	(8) Other expenses of municipal government			
7.	Administration of Justice, including police service			
8.	Debentures redeemed			
9.	Refund of money borrowed for current expenditure			
10.	Interest on loans and advances			
11.	Sinking fund investments—			
	(1) Mortgages			
	(2) Debentures of other municipalities			
	(3) Debentures of the municipality			
12.	Support of the poor and other charities			
13.	Board of Health			
14.	Miscellaneous*			
	Total expenditure			
	Balance December 31, 1887			
	ASSETS: December 31, 1887.			
1.	Land, buildings, furniture, etc			
2.	Stock in public works			
3.	Mortgages			
4.	Debentures			
5.	Other investments			
6.	Uncollected taxes for 1887			
7.	Other arrears of taxes (estimated)			
8.	Cash in hand of treasurer			
9.	Cash at credit in bank			
10.	Miscellaneous*			
	Total assets			
	LIABILITIES: December 31, 1887.			
1.	County rates			
2.	Local school rates			
3.	Debentures outstanding for—			
	(1) Aid to railways			
	(2) All other objects			
4.	Coupons on debentures due and unpaid			
5.	Loans for current expenditure and interest on same			
6.	Miscellaneous*			
	Total liabilities			

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* Under the head of "*Miscellaneous*" include all items not named in the schedule, specifying important items in the column for *Remarks*.

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Copies of all correspondence between the University of Toronto and any other University or Universities, relating to Matriculation Examinations. (*Not printed.*)

107–

SEVENTH ANNUAL REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

OF ONTARIO.

BEING FOR THE YEAR

1888.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.

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TABLE OF CONTENTS.

PART I.

PAGE.
1. Introduction by the Chairman .... v.
2. Secretary's Report .... vii.
3. Reports on Outbreaks of Contagious Diseases .... viii.
4. Report of Dr. Lehmann *re* Smallpox in and about Buffalo .... xi.
5. Report on Diphtheria .... xiv.
6. Report of the Committee on Epidemics *re* Diphtheria in the Frontier Townships in the Northern Districts of Ontario .... xx.
7. Reports of Drs. Hodgetts and Wade *re* Diphtheria in the Nipissing and Parry Sound Districts .... xxiii.
8. Report on Anthrax .... xxxvi.
9. Report on Notification of Infectious Diseases .... xxxviii.
10. Report on the Abatement of Nuisances .... xlv.
11. Report on the Inspection and Regulation of Public Milk Supplies .... xlix.
12. Report on Sewerage Systems .... lv.
13. Report on Disposal of Sewage .... xliv.
14. Report of Committee on School Hygiene .... lxxii.
15. Report of Dr. Covernton on Quarantine .... lxxvi.

PART II.

Annual Reports from Local Boards of Health 3

SEVENTH ANNUAL REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

To Sir Alexander Campbell, K.C.M.G.,
Lieutenant-Governor of the Province of Ontario.

May it Please Your Honour :

In presenting for your consideration the seventh annual report of the Provincial Board of Health, I shall, as has been customary in the reports of my predecessors, make a few remarks regarding the progress of sanitary reform, the Board's present position, and its prospective work.

The work of the past year has been very gratifying, abundant evidence being repeatedly furnished of the beneficial results flowing from extensive diffusion of sanitary information by means of pamphlets, sanitary conventions, and such other means as, to this Board have, from time to time, seemed best suited to accomplish the end in view, viz., the education of the people in regard to the best means of preventing or limiting the spread of epidemic contagious disease.

Under the authority of the excellent sanitary legislation which our Government and the Legislature have seen fit, in their wisdom, to adopt the work of the organization of Local Health authorities goes bravely on, there being at present no less than 520 Local Boards of Health and some 350 Medical Health Officers throughout the Province, all more or less actively engaged in performing their duties by perfecting their local sanitary arrangements for the prevention of disease among the people of their several localities.

In numerous instances, during the past few years, many of these local organizations have been suddenly called upon to cope with serious outbreaks of disease, and the prompt, systematic and energetic manner in which they have undertaken the task assigned them has invariably resulted in rapidly stamping out such epidemic outbreaks. In their efforts to carry on the good work, in which they are engaged, many of these Health Officers are frequently meeting with difficulties in determining the causes of outbreaks of disease, whether from bad water, foul air, impure foods, etc., and, in consequence of these difficulties, appeals are frequently made to the Provincial Board of Health for assistance in removing them. In order to meet this urgent want, in some measure, and to assist and encourage Health Officers, who are faithfully, and, generally without compensation, endeavoring to discharge their duties in their respective localities, it is desirable that this Board should be furnished with the means wherewith to carry on practical experimental work in Bacteriology, and in testing the purity of specimens of water, air, food, etc., which are from time to time sent by Local Health Officers. In this way the usefulness of this Board would be very much increased by, in many instances, furnishing the necessary information to assist in limiting the spread of outbreaks of disease. This desirable end could be obtained here by a comparatively small outlay for the necessary apparatus and by making such arrangements as would enable the executive officer of this Board to devote his entire time to sanitary work. Many valuable lives would be, no doubt, saved and much unnecessary suffering and disease would doubtless be avoided by such a course of action. From the information obtained by experimental work of this kind, many outbreaks of contagious diseases among valuable animals might also be avoided, or cut short and speedily stamped out.

It is gratifying to note the extent to which the inspection of milk is being more or less thoroughly carried out in many places. Milk is so very susceptible of contamination, and from such a variety of sources that the importance of using every effort to ensure the purity of this most important article of food, is very great.

The increasing interest that is being manifested in the great question of the disposal of the sewage of our cities and towns is strongly indicative of the progress which is being made in the direction of sanitary reform. Several of our towns have constructed systems of sewerage and others have the matter under consideration. The Town of Brockville has been the first to construct what is known as the *separate* system, that by which the sewage, and the storm water are carried by separate pipes and the example of Brockville will doubtless, as it deserves, be followed by other towns in the near future. The Government has established a system of sewerage at the Asylum for the Insane, at London, known as the *intermittent downward filtration* plan, which will thoroughly test the system in a practical manner in our Province and if successful, as it can scarcely fail to be, will give an impetus to the construction of sewerage works and the proper disposal of the sewage of our cities and towns, which is in many instances most urgently called for.

Much interest has, of late, also been manifested in the vital question of an abundant supply of pure water to the people in our cities, towns and villages, and it cannot receive more attention than it deserves. It is highly necessary, in the interest of public health, to substitute a supply, for that now so generally derived from wells which are so frequently rendered impure by surface contaminations from the filth by which the ground in their immediate vicinity becomes saturated when proper precautions for its removal are not observed. A number of our towns have recently established excellent systems of waterworks, and others have plans for their establishment now under consideration.

The subject of compulsory notification of the existence of contagious diseases and also that of isolation hospitals, was so very fully and ably discussed by our secretary in the sixth annual report of this Board, that little more need be said regarding it, but the importance of the subject and the desirability of having isolation hospitals established as rapidly and as extensively as possible throughout the various municipalities of the Province will be my excuse for reiterating to some extent what has already been said. Upon the occurrence of a case of contagious disease in a municipality where the system of notification is promptly and fully carried out, the fact immediately becomes known to the authorities. The importance of promptly isolating first cases as a means of preventing the spread of the disease cannot be over-estimated. In no other way can first cases be so completely isolated and the spread of infectious diseases be so effectually prevented as by the immediate removal of such cases to properly constructed isolation hospitals. Not only is the separation of the sick from the healthy rendered complete by this method, but the sick are afforded a better chance of recovery than they can possibly have in the houses of most poor people, the hospital affording better ventilation and other hygienic surroundings, in addition to other advantages, than the houses already referred to. Moreover, instead of the healthy members of the family being shut up in their own premises in close proximity with those that are sick, and a condition of non-intercourse with the public enforced for a long period, as would be the case were the hospital not to be resorted to, they may be permitted after a comparatively short time to mingle with their neighbors and resume their occupations for the purpose of earning the means of support for themselves and those that are ill. Municipalities will, in such cases, be in a great measure relieved from the necessity which often exists, of contributing directly to the support of such families during the continuance of the illness, the sick will be placed in a condition favorable to recovery, and the healthy will be freed from liability to contract the disease. By the removal of cases of contagious diseases to isolation hospitals and their treatment therein, the process of stamping out the disease will be rapid and complete.

FRANCIS RAE,
Chairman.

REPORT OF THE SECRETARY.

To the Chairman and Members of the Provincial Board of Health :

GENTLEMEN,—It is with satisfaction that I have the honour to recall for your consideration the work undertaken by the Board during the past year, and to congratulate you in being able to contemplate with satisfaction the present position of the Province in the matter of public health; for, notwithstanding the fact that infectious diseases have appeared in a very considerable number of instances, they have not except in one or two localities, gained more than a temporary foothold. That this result is wholly or mainly due to the direct work of your Board it would not be correct to state, but that the advances in public health work, which have become manifest throughout the Province, are in large measure due to the compact organization which has been created by legislation. persistently recommended by you and passed by the Legislature, can fairly be affirmed without danger of contradiction. What the character of the subjects is, which have been discussed by you during the past year, will be fully set forth in the various reports following this *resumé* of work; while the varied nature of the work instituted and completed by the numerous Local Boards throughout the Province, is exhibited in the Appendices attached to the report proper.

Another subject which I would refer to with unmingled satisfaction as an evidence of the growing interest and importance of the work, which your Board, as regards the governmental branch, may be said to be the exponent of, is the Association of Executive Health Officers of Ontario. and the work performed by it during the year at its two semi-annual meetings, held in Toronto and Lindsay. Instituted in 1886, this organization has gradually increased in numbers and in the practical character of the subjects discussed by it. It is not too much to say that the grasp shown in the discussions, both of the difficulties to be overcome in executive health work and of the measures by which they are to be surmounted, is most complimentary to the professional standing of the Medical Executive Officers, and the *esprit* and enthusiasm with which they have undertaken the arduous and often disagreeable tasks which are associated with the duties of a health officer. There are, as far as I know, no members of the community who are engaged in a work more benevolent in its character, so arduous in its nature and less likely to be of financial benefit to those engaged. Distinct from the idea of *curative* Medicine as a mere profession or business, it takes on the intensive character of a duty to humanity, and places workers in this field in touch with those broad principles which are the guide and aim of the philanthropist and true statesman. Of such it may truly be said :

> " Virtus, repulsae nescia sordidae,
> Intaminatis fulget honoribus."

The cordial coöperation which for several years past has existed between the executive officer of your Board and those of sister Provinces and neighbouring States, in all public health matters having a more than provincial bearing, still continues. In May last, delegated by you, your secretary attended the Conference of State Boards held in Cincinnati, and took part in the deliberations of that body. Quarantine matters received a large amount of attention, and it was with pleasure that your officer was able to state that the Dominion Government had acceded in large measure to the requests of the Boards of Quebec and Ontario that the St. Lawrence quarantine be fully equipped for the responsible work placed upon it. From the report thereon by Dr. C. W. Covernton, found on a later page, it will be seen that the indefatigable chief of this service, Dr.

Fred. Montizambert, has had ample opportunity given him for carrying on an extended and thorough inspection service during the past year. Through the efforts of your secretary, Dr. C. N. Hewitt, President of the American Public Health Association and Secretary of the State Board of Minnesota, was induced to be present at the summer session of the Executive Health Officers' Association, and to visit and inspect our St. Lawrence quarantine. When it is stated, as was done by him at the Milwaukee meeting of the American Public Health Association, that it compares favorably with all that has been said of the New Orleans quarantine station, we may rest assured that we have at the gateway of Ontario a barrier which may be said to protect us almost completely against the introduction from foreign countries of infectious disease.

Your secretary further took part in this Conference by discussing in a brief paper the subject of Isolation Hospitals, referred to at some length in the report for 1887. Those officers from States most advanced in public health measures strongly supported both the necessity for and practicability of such hospitals, both for urban and rural districts. The outbreaks of smallpox, which have appeared at different times and localities in New York State, further indicate the necessity for close and constant relationships between the officers of neighbouring States and Provinces. As will appear in the report on smallpox in Buffalo, the courteous treatment of your secretary by the Health Officer of Buffalo made it possible for him to maintain in the Medical Inspector, Dr. Lehmann, appointed by the Board, a close observation, of the first importance to the safety of this Province, of the progress of the epidemic in that place. While it would be too much to say that had the Inspector been retained longer in Buffalo, the introduction of the disease in December into Southwold Township, which has had such lamentable results, would have been prevented, yet it is satisfactory to be able to state that during the period, the worst in the history of the epidemic, in which Dr. Lehmann was stationed in Buffalo, no single instance occurred of the introduction of the disease into Ontario.

The reciprocal notification of outbreaks by your Board and that of the Province of Quebec has served to maintain a happy understanding between the two, further cemented by the presence of the Quebec chairman and secretary, Drs. Lachapelle and Pelletier, at the Lindsay meeting of Executive Health Officers.

I. OUTBREAKS OF CONTAGIOUS DISEASES.

Smallpox.—Referring in a more detailed manner to the special matters which the Board has had to deal with during the year, that of outbreaks of contagious diseases deserves our first attention. In Philadelphia and New York cases of smallpox had appeared early in the year, their number in the first-named city having, by April, increased to the degree that the disease might be called epidemic. Prompt notification by Dr. Benjamin Lee, Secretary of the State Board, was given week by week, and evidence went to show that the city authorities were earnest in their endeavors to stamp out the disease. The separation of New York city from the general control exercised by the State Board of Health, made it impossible for this Board to obtain accurate information regarding the actual state of affairs, except in so far as the city death returns gave the number of weekly victims of this disease. Cases from this State were introduced both into the Province of Quebec and this Province. The cases in Ontario occurred in the County of Dundas, in the township of Winchester, and were introduced by a horse dealer who had been exposed while in New York. The cases fortunately were early diagnosed, and the disease was limited to the family in which it first broke out. Owing to the strict supervision exercised at the St. Lawrence quarantine, the usual cases imported, introduced in the persons of immigrants, were absent this year; and the next source of danger was from Buffalo, where the disease had been introduced in July in the person of a Polish immigrant, who had brought clothing through the New York quarantine in an infected condition. The details in connection with this outbreak will be best gathered from the following report on the subject presented to the Board:

OCTOBER 10th, 1888.

To the Chairman and Members of the Provincial Board of Health:

GENTLEMEN,—During the past six months newspapers have reported numerous cases of smallpox in Philadelphia and New York, several outbreaks in Toronto, and since July a very considerable number of cases in Buffalo According to newspaper reports cases occurred in Toronto about the 12th of July, on Yorkville Avenue. Information obtained from Dr Edward Clark, Medical Health Officer, Buffalo, on July 26th states that up to that date nine cases and one death had occurred, eight of them being amongst the Polish people of East Buffalo. The letter further stated that 16,000 people had been vaccinated in that district alone, and no new cases had been reported since July 17th, and Dr. Clark said, "I am beginning to think that we have succeeded in stamping it out." On August 2nd Dr. Clark reported to the secretary of the State Board of New York that up to that date there had been fourteen cases and two deaths. In this letter Dr. Clark stated that two cases of the first set of four had been in attendance at a school of 2,000 scholars. The other cases of this first outbreak occurred in the families amongst the relations of these first families. During the succeeding month of August no more cases, or almost none. were reported; but owing to the fact that the class of people amongst whom the outbreak occurred were foreigners, crowded together (as many as 75 being in one tenement), not accustomed to having medical attendance, and being afraid of being quarantined and kept from work, other cases occurred and were secreted. This started the outbreak afresh, and up to the date of my visit, on the 27th of September, to Buffalo, just 60 cases in all had occurred. On three streets outside the Polish district cases have occurred. These are Seneca Street, Niagara Street and Main Street. Regarding these cases, it may be said that they have arisen from people going about in public, or living in houses where secreted cases have occurred. With renewed vigilance on the part of the health officers in searching out secreted cases, it may fairly be hoped that few new cases will occur from that source. The daily papers up to date report nine more cases, but they have been mostly in the Polish centre. One physician was, however, reported dangerously ill with the disease at the time of my visit, and the wife of another is, by to-day's paper, reported to be sick with varioloid, and to have been removed to the hospital.

Returning to Toronto cases, your committee would recall to your recollection that on September 23rd, every city newspaper had a half column or more of reports announcing to your committee and to the world for the first time that smallpox had again broken out in Toronto. From these I find that on September 14th, the disease appeared in a house on Agnes Street, and on the 18th in a house on Richmond Street. There is a considerable similarity in the history of these two recent outbreaks in different cities. First cases occurred in both cities at dates closely approximating. We know that the source of the Buffalo case was the infected clothing of an immigrant who had been allowed to pass through New York quarantine unfumigated, thereafter being hung up in the tenement house in Buffalo that he came to. The source of the first cases in Toronto is unknown to the Board.

Both cities presumably during August had stamped out the disease. Both cities have had industrial exhibitions, and the public in both cases discovered just after these fairs have closed, that smallpox has been abroad.

The sources of the second outbreak in Buffalo have been located in secreted Polish cases. The sources of the two outbreaks in Toronto in different parts of the city are, as far as your committee can gather, undiscovered. We have seen newspaper statements that a woman, who was a cook, and came from Buffalo on account of the prevalence of the smallpox there, had apartments in the Richmond Street boarding-house; that she is at present engaged in a Toronto kitchen, and that for obvious reasons it is not desirable to tell the public which house this particular one is. We have later information purporting to show that this Buffalo story is a myth. At any rate the woman cannot be found.

In consequence of the Buffalo outbreak your committee communicated with the State Board of Health of New York, and asked for information regarding the epidemic, and was informed that smallpox was not epidemic in any part of the State, Buffalo having a charter of its own, and being independent of the health laws of the State. On July 17th all Local Boards along the Niagara border were notified to appoint Medical Health Officers and enforce the laws relating to vaccination. So prompt had been these precautions that no case has occurred on the Canadian side along the whole line. That the disease had got a start which made it probable that cases might occur throughout the winter in the Buffalo district and possibly in Canada, there could be little doubt, as a case had occurred at Black Rock, another at Tonawanda, and another near the Cattaraugus Indian reserve. Your committee had to consider whether the emergency called for further action on the part of the Board than to urge on every Local Board systematic and general vaccination. The danger was in the lack of general vaccination and the possible inefficiency of the measures taken at Buffalo to protect herself and the general public.

But what is Buffalo doing?

1. There is a Medical Health Officer.

2. There is a staff of ten physicians regularly appointed, each of whom has charge in one of ten districts into which the city is divided.

3. There is a corps of eight sanitary police constantly employed, and emergency police sworn in as required.

4. Wide and general vaccination has already been carried on in the Polish District, and 3,000 to 4,000 persons are at present being vaccinated daily.

5. There is a smallpox hospital with a young physician constantly in charge, who from time to time is advised by the Medical Health Officer, who visits the hospital occasionally.

6. While the law in Buffalo requires that the physician in attendance is to give a certificate before a patient can be taken from his home and removed to the hospital, yet, inasmuch as the families in such cases are kept a much longer time quarantined in their own houses, in almost every instance first cases are being removed to the hospital, and the family quarantined for ten or twelve days, and the house thereafter disinfected.

7. The district physicians are making a more or less systematic inspection of their districts in search of secreted cases.

Can more be done by Buffalo in either her own or the public interest? No; if what is being done is being done thoroughly. With regard to this your secretary has become acquainted with the officers and their ways of doing work, and can only say they appear to be laboring earnestly and intelligently to stamp-out the disease—quite as much so as any of our own Boards. Results alone can prove the character of the work done in any case.

Your committee has had next to consider whether the work being done, both in Buffalo and by our own Local Boards, should be supplemented by a train inspection service under its direction. With regard to this, your committee would say there would be a number of points to watch. There are the Suspension and Cantilever bridges at Niagara Falls—the great proportion of the passengers over which are going to and from the east, and, if they go to Buffalo at all, would pass through by train. The carriage and foot-path bridge at Clifton, where excursionists frequently are crossing and recrossing; the International bridge at Black Rock (Buffalo): the ferry at Fort Erie, and other boats, schooners, etc., going up Lake Erie and touching at Canadian ports.

This line is an extended and divided one, and would need some six officers to do the work thoroughly. This would mean a vaccination or requiring a certificate of vaccination of all passengers crossing over, and a fumigation of all baggage, since through passengers may have stayed in Buffalo. It would mean hours of detention for trains and passengers, and would only serve to aid railroads running along the southern side of Lake Erie, to the detriment of Canadian commerce, as travellers would, if possible, avoid passing through Canada. If the necessity owing to carelessness in Buffalo was evident, your committee would have no right to discuss commercial considerations; but inasmuch as this has not been proven, a service not urgently necessary would be performed perfunctorily in a short time, and evil would result from the false sense of security created by the pretended inspection.

In conclusion, your committee would say that every end would, in its opinion, be gained should the Board have an officer of tried experience located in Buffalo, whose special duty it would be to keep a register of every case there occurring, and of every house, and keep this Board informed of any instance in which the quarantine became relaxed, the disinfection imperfectly performed or neglected, and whether any baggage or clothing was removed while in an infected state from any house. In this way alone, it is believed, can effective work be done, while it would be a spur to the Buffalo authorities and a source of accurate information for ourselves.

(Signed) C. W. COVERNTON,
FRANCIS RAE,
PETER H. BRYCE,
Committee on Epidemics.

The action recommended in the preceding report was approved of by your Board and endorsed by the Minister in charge of the Department, and Dr. W. Lehmann proceeded to Buffalo on the 12th of October, and carried on the work of inspection in a manner most satisfactory to your secretary. The following report indicates the state of affairs during the succeeding month :—

TORONTO, November 7th, 1888.

To the Chairman and Members of the Board :

GENTLEMEN.—According to instructions received at the last meeting, your secretary proceeded to secure the services of a medical inspector of the Board to proceed to the Buffalo district. After a short delay I secured the services of Dr. W. Lehmann, who left for Buffalo on the 12th October. The Grand Trunk Railway kindly supplied me with passes for the Board's officer. His report is herewith presented in full. The Lambton Mills outbreak was successfully limited to the first house through the energy of Dr. J. Cotton. the Medical Health Officer of Etobicoke Township. The Toronto outbreaks, which at time of last meeting had established seven centres, have through thorough measures been limited to these, and all the cases are convalescent, and no new cases have occurred for over a fortnight.

Similarly, the outbreak in Stouffville was promptly stamped out by the energy of Dr. Freel, the Medical Health Officer of the Local Board.

In North Gwillimbury the outbreak has been more serious, owing to the fact that a number of persons had been exposed in the house where the first cases were. The clerk informed this Board of the fact, and during the absence of the secretary Drs. Cassidy and Covernton, directed that the municipal council at once have a Board organized and a Medical Health Officer appointed, which was promptly done. Two days after I drove through the infected district, reaching it from the south. By good fortune, I met the Local Board of East Gwillimbury in session at Sharon, and obtained all information within its possession with regard to the outbreak, and requested them to appoint a Medical Health Officer, Dr. Armstrong of Mount Albert, which was done. A member of this Board proceeded with me till I met the secretary, Mr. Sennett, of the North Gwillimbury Board, with whom I proceeded to Sutton, where a long conference was held with the Reeves of North Gwillimbury and Georgina, and the Medical Health Officer. Compulsory vaccination was decided upon, and a joint meeting of the four townships adjoining was fixed for the next day for combined action in stationing sanitary inspectors, each agreeing to put on two inspectors, and to arrange for a common isolation hospital if required.

On October 22nd, Dr. Noble, of Sutton, reported nine cases of smallpox, located as follows: seven in North Gwillimbury, one in East Gwillimbury, and one in Georgina.

On October 22nd, Mr. Pass of Brownhill, in Township of Georgina, reports two cases of the disease, one of the patients having contracted the disease in North Gwillimbury according to Mr. Pass's letter.

Mr. Sennett, the Clerk of North Gwillimbury, thinks that the disease is traceable to Toronto, but does not give details as to his statement.

Mr. Scott, Reeve of North Gwillimbury, on October 26th, reports that the orders of Dr. Bryce have all been complied with, and states that about forty families have been quarantined, and that two inspectors are going through his township.

On October 27th, Mr. Anderson, Reeve of Georgina, states that inspectors were appointed in all the townships affected, with the exception of the Township of Scott, as agreed upon at a meeting of the reeves; he states that about fifty families are quarantined, and that six men are vaccinating in Townships of Georgina and North Gwillimbury. He locates the cases thus: six cases in one house situated two miles from Keswick; one case in a house one mile from Keswick; one case in a house about five miles from Keswick; one case in Brownhill.

On October 29th, Dr. Bentley reports that there are no new cases.

Dr. Oliver, of Sarnia, on October 26th, reports mild case of smallpox.

Dr. Johnston, of Sarnia, October 29th, reports two new cases of smallpox, and that strict quarantine has been enforced.

Dr. T. A. Freel, Stouffville, on October 13th, reports a case of smallpox, patient quarantined and vaccination general; the patient had been working in Toronto.

Dr. J. M. Cotton, Lambton Mills, on October 2nd, reports a case of smallpox.

P. H. BRYCE,
Secretary.

TORONTO, November 8th, 1888.

To Dr. P. H. Bryce, Secretary Provincial Board of Health:

DEAR SIR.—In reference to my work in and about Buffalo and along the Canadian frontier in connection with the smallpox outbreak, I have to say that I arrived at Niagara Falls on the 12th October, and found the Medical Health Officer, Dr. Oliver, making a house to house vaccination. Next day, October 13th, went to Niagara Falls South or Drummondville, and found Dr. McGary, Medical Health Officer of that place, also going from house to house vaccinating every person who had not been vaccinated in the last seven years and as many others as were willing. I have every reason to believe that the work was most thoroughly carried out at these two places. I learned while here from Dr. McGary, that arrangements were made for vaccinating the Township of Stamford, which includes the territory about the Falls outside the town. I have since received information from a different source, that owing to some misunderstanding between the Medical Health Officer and the Council the work in Stamford was dropped. I spent some time with Dr. Talbot, the Medical Health Officer on the American side, and found that although he was vaccinating more or less almost every day there was no systematic thorough work done. Arrived at Buffalo on October 14th, and proceeded at once to obtain all the knowledge possible as to the extent and location of the smallpox, and the mehods taken to stamp it out. Dr. Clark, the Medical Health Officer, was very kind and genial, and in a very short time I found myself very well acquainted with him and a number of his assistants. The work consisted for the most part of vaccinating, searching for new concealed cases and quarantining, also fumigating. I found vaccination going on very extensively. Free vaccination stations were opened in different places, and house to house vaccination in the Polish district where the large majority of the cases occurred. There is in the Polish district a population of 35,000 Poles huddled together in tenement houses and in a condition favourable to the spread of contagious diseases. Up to this time, over 50,000 people had been vaccinated free.

Whenever a new case was found it was removed to the pest-house if in a fit condition to be moved, the clothing either burned or disinfected by boiling and bichloride of mercury, the woodwork of the house washed with bichloride, and the house fumigated by burning sulphur. The house was then strictly qurantined for a fortnight, and if any other inhabitant of the house took the disease the treatment was again gone over. Up to this time, there had been eighty-six cases of small-pox in Buffalo.

On October 17th, went to Tonawanda, where I found four cases of smallpox and the regulations pretty lax, vaccination not compulsory, and a good deal of disputing among the doctors as to what their duties were, and confusion arising from there being two villages of Tonawanda, one in each county and only separated by a creek. Sailors were not being vaccinated at all and would be almost sure to carry the disease to the ports they touch at if it spreads to the part of the town frequented by them. I could not find any shipping between Tonawanda and the Canadian ports nearer than Georgian Bay, where there is an extensive lumber trade.

October 18th, went to Fort Erie and saw Dr. Douglas, Medical Health Officer, who assured me that the village was being thoroughly vaccinated. He was not making a house to house vaccination, but I had reason to believe that in a little time he would get the village thoroughly done. The Local Board had also decided to put an inspector on the ferry between Fort Erie and Buffalo.

October 19th, visited township of Bertie, including villages of Victoria, Amigari, Ridgeway and Stevensville. I found a very extensive communication between all the frontier townships, towns and villages, and Buffalo; people from the Canadian side within a radius of twenty or thirty miles from Buffalo go there to do a little trading and shopping and visiting friends, just the same as people from the country and villages near Toronto visit the latter city. Besides I found that there were a very large number of domestics employed in Buffalo, whose homes are on the Canadian side, and just at this time a lot of them were coming home and visiting friends, and friends from the Canadian side were visiting them in Buffalo, etc. Thus there seemed a great danger of these townships becoming infected unless thoroughly vaccinated. The township of Bertie in response to a request from yourself had issued aproclamation, calling on all persons who had not been vaccinated within the last seven years to have it done within the next seven days. I visited the different doctors at the end of the seven days and found that not a hundred people had been vaccinated in the whole township. I then visited a majority of the members of the Council and Local Board of Health, and urged them to issue a new proclamation making vaccination free and compulsory, to appoint each of the three doctors in the township public vaccinators, have them visit all the schools and allow the parents and other members of the family to be vaccinated at the school house along with the children, thus each of the doctors' offices and each school would be a free vaccination station, and none of the people would have more than a mile or two to go. This plan was decided upon and is now being carried out. The doctors have gone heartily into the work, especially Dr. Brewster, the Medical Health Officer for the township, who calls at all the houses on the road to the different schools, so that Bertie is practically having very nearly a house to house compulsory vaccination. Dr. Brewster informed me the other day that fully one-half of the children under ten years had not been vaccinated before and it was the first time for a great many adults. In as many of the townships as I could find time to visit I tried to have something of the same plan carried out, with I think pretty fair success, although some of the townships move slowly in the matter, and it is too soon yet to tell how much will be done. The townships visited include all with the exception of three from Niagara Falls, up the river and along the lake shore as far as Port Rowan. I spent part of my time in Buffalo investigating the spread of the disease and means adopted to check it, and part in the townships until October 25, I went again to Tonawanda, found no new cases of smallpox.

October 27th, found that two days previously, a gang of fifty Italian labourers had gone from Buffalo to work on the South Norfolk Railroad between Simcoe and Port Rowan. I at once went to Simcoe and drove to the Village of Vittoria, Township of Charlotteville, where the Italians were stationed, and found Dr. McInnis, Medical Health Officer, in response to an order from yourself, getting ready to vaccinate them. By the next day they were all vaccinated and isolated, and I then visited the three townships through which the road passes and urged a general vaccination. The same was done also at Simcoe and Port Dover.

October 31st, visited Walpole township owing to a report of smallpox. Found only a few cases of chickenpox, and on enquiry found that almost none of the children in the neighbourhood were vaccinated. Next day, November 1st, I went to Jarvis, where I found a majority of the Board of Health and urged them to see that a Medical Health Officer was appointed and the township vaccinated.

November 5th, Buffalo. Cases of small-pox have been found in the last few days on Canal and Peacock streets, the very worst slums of the city, and the authorities anticipate a pretty severe outbreak in this quarter. A boat came into port to-day from Chicago with a case of smallpox on board. It was one of the sailors, and caused a suspicion that there may be smallpox in Chicago.

November 6th, visited St. Catharines, Thorold and Port Colborne, as I thought places along the canal were pretty badly exposed just now.

St. Catharines has a few cases of measles, is doing no vaccination and has no Medical Health Officer. They promised to appoint a Medical Health Officer at once and take steps to vaccinate the city.

I have the honour to be,
Your obedient Servant, etc.,

W. LEHMANN.

By resolution of the Board Dr. Lehmann's services were continued for another month, and during this period he was engaged largely in the townships along the border, visiting the various Boards and insisting upon the compulsory Vaccination Act being promptly and thoroughly enforced. The following letter from Dr. N. Brewster, the active and efficient officer of Bertie Township, opposite Black Rock, states some of the dangers apprehended and the methods adopted for counteracting such :—

RIDGEWAY, October 15th, 1888.

MY DEAR DR. BRYCE,—I have been down along the river making enquiry as to persons going to Buffalo, who live on this side and work there. That is all stopped now. I could learn of only one who crosses, and that a young lady. Dr. Knisely, who lives at Victoria, says he believes nearly all have now been vaccinated, who were not three years ago when the Montreal scare occurred. But it is quite impossible to oversee all who cross over from here, as there are seven landings and stations where they can get off. The proclamation will cause many to get vaccinated that would not come out otherwise, but nothing less than a house to house inspection will be thorough.

Yours in haste,

N. BREWSTER.

Of the many dangers attached to this outbreak none were greater than that of the bringing in to work on the Norfolk railway a very considerable number of Italians who had been residing in Buffalo. Information of their arrival was received by telegraph, and within a few hours they were all vaccinated and kept under surveillance till the incubation period was over. It is to be regretted that township Local Boards do not appreciate at an earlier stage, and to a greater degree, the necessity for general vaccination. A small expenditure for free systematic vaccination would have avoided the lamentable outbreak which, beginning in January, has desolated the Township of Southwold, and made an expenditure of what would have been a hundred or so dollars mount up into the thousands. To say that many townships escaped does not lessen either the culpability of or the cost to those which have suffered. That the sin of omission of this prophylactic measure has been in some degree covered by energetic action of these Boards in Elgin county is, however most creditable, but it cannot minimize the loss to those who have suffered, in person or in friends, through the severe character of the cases which have occurred.

Out of the Buffalo outbreak grew, in all probability, the several other outbreaks which have to be noted. As already referred to in the report of your Secretary, outbreaks occurred in Stouffville Village, Ontario county, North Gwillimbury and Lambton Mills in York county, and in Sarnia during the months of September and October, the first cases in every instance having contracted the disease during their presence in Toronto at the Industrial Exhibition in the middle of September. Strangely enough their exposure was in every instance at a time when no cases were known to exist in the city, and the only inference to be drawn is that persons having recently recovered from the disease, or whose clothing had been exposed to the infection, had come in contact, directly or indirectly, with these several victims of the disease.

It is satisfactory, however, to know that in all these outbreaks the Local Boards, when once at work, acted with such promptness and thoroughness as to rapidly suppress the disease.

Of all these outbreaks, that beginning in North Gwillimbury, thence extending to East Gwillimbury and Georgina Township proved the most serious.

As in the later and still more serious outbreak in Southwold Township in 1889 the extent of the danger was greatly increased from failure to early detect the nature of the disease, in part owing to the mild nature of the first cases. In Gwillimbury the first victim was a farmer, and during the period prior to discovery, various persons sat up with the sick, and threshers boarded and slept in the infected house. These not only took the disease, but also disseminated it. A visit to the district by your Secretary served to strengthen the hands of the three Local Boards immediately interested, and Medical Health Officers and public vaccinators rapidly circumvented the disease. Trains for a short time did not stop at one of the infected centres, while threshers, schools and churches for a time were stopped in their ordinary duties. In connection with this, as in every other rural outbreak, a difficulty of great moment arose. There can seldom be found competent and trustworthy persons who will act as sanitary inspectors and carry out the work of disinfection. It is most desirable that some means be considered by the Board whereby such a staff might be educated, and their services be at the disposal of Local Boards during such emergencies.

In connection with these smallpox outbreaks it is proper to mention that the "Act respecting Vaccination" has been found to be of a satisfactory character, and that in no case has any serious opposition been made to its provisions being enforced. The difficulty resides in the prevailing laxity with regard to its provisions for the regular vaccination of children throughout the year. With a Vaccine Farm under the supervision of the Provincial Board, and in a position to supply at all times reliable vaccine in any quantity, there can be no excuse for Local Boards not insisting upon the Act being put into force. Experience has everywhere taught that if it is left to the family physician or the householder children will not be generally vaccinated. If, however, the rule regarding the admission of children to school only on the production of a certificate of successful vaccination were enforced, the same end would in large measure be attained. It is agreeable to think, however, that in almost every case where first cases have been early diagnosed. the disease has been limited to the family where it first appeared. Nothing better illustrates the efficiency of local organization than the ability shown by Boards to stamp out these various outbreaks from the moment that their nature has really been made known. The following is a list of the outbreaks and cases which have occurred during the year, and illustrates the generally mild character of the cases and their skilful medical treatment:—

SMALLPOX IN ONTARIO DURING THE YEAR 1888.

Name of Place.	Dates of Discovery of the Several Cases.	Total number of cases.	Deaths.
Toronto City	April 10; June 27, 30; July 2 (2 cases); September 9, 18, 23, 26; October 1, 4, 6, 7, 11, 12, 14....................	16	1
Stouffville Village	October 2	1	
Lambton Mills (Etobicoke Tp.)........	October 2	1	
Gwillimbury N., Township (York Co.).	October 10, 12 (3 cases), 13 (2 cases), 19, 22 (3 cases); November 1 and 3 (3 cases	13	1
Gwillimbury E., Township (York Co.).	October 13...........................	1	
Georgina, Township (York Co.)........	October 13 (2 others had disease subsequently)...........................	3	
Sarnia Town (Lambton Co.)...........	October 3, 17, 24, 30 (2 cases); November 8 (5 cases), 12 (2 cases)..........	12	
Moore, Township (Lambton Co.)	November 8, November (date not given), November 17................	3	1
Chesterville, Winchester Township, (Dundas Co.)	Early in the spring of the year (April 10) the disease broke out in a family of four members	4	
	Total	54	3

2. **Diphtheria.**—Since the study of diphtheria presented to the Board in the report of its secretary contained in the annual volume for 1886 there have been comparatively few new features of the disease which have presented themselves. In that report the history of the disease, both from a medical and statistical point of view, was presented, and a large amount of statistical and exact information will there be found collated. A remark therein quoted from Hirsch's hand-book on the geographical distribution and character of the disease may be recalled with benefit. He says:—"The history shows us also a peculiarity in the comportment of diphtheria as an epidemic which distinguishes no other epidemic disease in so decided a manner. The several cycles have extended over periods of various lengths, many of them only a few years and others lasting several decades." Again he says.—"That certainly, as regards our own time, we have to deal with a general outbreak of the disease."

These two statements are fully borne out by the correspondence which has from time to time been brought before your notice at the quarterly meetings of the Board, and by the reports of Local Boards, as found in the Appendices. Further, it may be mentioned that while certain localities have especially suffered, no portion of the Province has been free from its ravages. This was also true of the previous year, 1887, as shown in the Registrar-General's report just published. The deaths in all the counties showed for 1887 an average of .6 per 1,000 of the population and 1.1 per 1,000 in the eleven cities of the Province. The latter increase is remarkable, as the returns for 1885 and 1886 show for the former year .5 and for the latter .68 per 1,000.

Regarding its general distribution, both as regards varieties of soil, population and locality, I shall illustrate by quoting from the mortality returns of 1887 :—

Essex, extreme south-west	1.1	deaths per 1,000.
Kent, " "	1.2	" "
Haliburton, extreme north-east	1.5	" "
Muskoka and Parry Sound, extreme north	1.3	" "
Prescott and Russell, extreme east	2.1	" "
York (including Toronto), central south	1.6	" "

These five are selected as the five highest county death-rates from this disease, and a glance at the map shows their distribution to be wholly irregular as to locality. But looked at with a knowledge of the special circumstances peculiar to each district, we at once gain light on the whole subject.

The south-west counties are in many respects a prairie, with much low-lying lands with abundant vegetable deposits and a notably bad water supply, often scooped from shallow wells dug through the decomposing vegetable matter down to the hard-pan. There are, further, many French settlers, from amongst whom it is very difficult to eradicate a zymotic disease once introduced, first because of their generally smaller houses, and secondly the difficulty of enforcing isolation. That to the latter two causes are largely due the great spread of the disease and the high mortality rather than to the special character of the locality is seen in the fact that the settlers in Prescott and Russell are largely of the same class, and that amongst them isolation is very imperfectly carried into effect, while in Haliburton and Parry Sound the relatively limited means of the settlers, their constant intermingling and the difficulty of obtaining medical aid, not to mention their poor houses and often bad water, readily account for the abnormally high mortality. That the mortality of York is so high is due to the fact that of the 3,418 deaths therein 2,688 occurred in Toronto; while 199 of these were due to diphtheria. What the conditions are in Toronto productive of such a high rate were referred to in the 1886 report, and to them might be added the two causes referred to above as common in the less favored rural localities, viz., insufficient isolation of first cases in houses and a permitted mingling with the public before patients have become free from infection.

While, however, the correspondence during the year suffices to indicate only too forcibly the general distribution of diphtheria ; it also shows that both physicians and Local Boards are becoming much more fully alive to the contagious character of the disease, the causes which prove favorable to its existence and spread as well as to its fatal nature, and to the vigorous measures requiring to be taken if its ravages are to be stayed. More than any other, except typhoid, it tends to reappear in its old haunts smiting one family after another who may successively inhabit the same premises, and attack even at different times persons who have before suffered from it. It will not be devoid of interest to cull from the official correspondence a few of the local conditions which were associated with outbreaks.

1. At Lindsay in the end of January a severe case of diphtheria was imported *via* the Victoria Railway from Kinmount, a small frontier village. The man who was sick had been taken ill while acting as cook in a lumber shanty near Kinmount. Dismissed from the shanty, he was forced to seek some settlement where a physician could be found. He went to Kinmount and stayed in the hotel there until driven from thence, and as there was no place in the village where such persons could be received, he took rail to Lindsay, where he was taken charge of by the Local Board and put in a temporary hospital provided.

2. A man taken sick at Fenelon Falls in August consulted a physician, who pronounced the illness diphtheria. The physician prescribed and the man went out, having been told to return for the medicine. He did not return, but took the next train north to his home near Minden. The result was that, though the case proved so mild that the patient went out and in and did not isolate himself from family or public, some four or more cases occurred in the family, with three deaths; a young missionary who volun-

teered his services as nurse to these young children became very ill, while the sum total of cases amounted to a considerable number.

3 At the Penetanguishene Reformatory for Boys, a place with two hundred inmates, situated at a distance from the village and with most salubrious surroundings, an outbreak took place at the close of 1887, and in spite of the greatest vigilance and care in the matter of isolation sixty-five cases had occurred amongst the boys and a number in two or three families of the guards who went out to their homes daily. The building, built many years ago as a military barracks, had had the basement paved with flagging-stone, and the soil, from washings, had become saturated with organic filth. At some later date steam-pipes had been laid, owing to the old-fashioned construction, under board floors in the wings and passages; leaks of steam at places had caused such to become damp, and the confined spaces beneath were a hot-bed of fungoid growth. The construction favored the upward rise of the basement air, and until these whole spaces were cleansed and disinfected, the steam pipes re-laid in proper position and the old decaying floors removed the infection persisted. What early diagnosis and prompt isolation and treatment mean may be gathered from the fact that of sixty-five cases not one was fatal, while in the few cases, some six in all, in the two families of guards there were three deaths, two children and a mother.

4. In the Welland gaol occurred an outbreak, with a fatal termination, in the person of the gaoler's daughter, a healthy child of thirteen. Wherever contracted, the dark, damp, unsanitary condition of the basement where the family lived, made the case from the beginning a desperate one.

5. A case occurred in the Mercer Reformatory, in one of the girl inmates, which had a favourable recovery. From this one, none followed. A cess-pool at the base of a grating in the playground seemed the immediate cause, since, had it been in the milk supply obtained from outside, more would with certainty have occurred in other inmates. These isolated cases in public institutions are referred to as being remarkable, inasmuch as the circumstances, from closest enquiry, made it in the case of both reformatories extremely improbable that the first cases were imported ones. The difference between the results in the two, one an old building undergoing repair and the other a new building in first-class sanitary condition, is both interesting and instructive.

6. A clergyman at Frome, in Elgin county, stated that five of his children had malignant diphtheria, with one death. He lived seven miles from St. Thomas, and no other cases had occurred in the neighbourhood during the year, and the children had not, as far as he knew, been in any way exposed. The physicians suspected a local well or cistern.

7. Cases occurred at Ottawa in a house where the upper flat was kept as a poultry-house.

8. During April, at the request of the Local Board and School Board of Whitby, an investigation by the chairman and secretary of your Board was held into an outbreak which had begun in June of the year previous, and which had lasted up to that date. The following extracts regarding the outbreaks are taken from diary:

1st. First case in June: boy died; several others in family took it.

2nd. End of June: boy died (went to Room No. 1, Model School); house near railway; bad water in cellar.

3rd. Family near Royal Hotel; in July, school closed; other cases, continued near hotel.

4th. Cases then occurred in three families in west end; some of premises in bad condition.

5th. Another case near bay; distance, two miles from others.

6th. Children attending Rooms 1 and 2 in Model School had, as seen, been sick with the disease as early as October; but, in February, the infant class became a permanent seat of the infection, to the extent that twenty-nine pupils out of a class of sixty, up to time of inspection, had had the disease, and thirteen deaths had occurred.

7th. At a family, just outside the corporation, engaged in the milk business, diphtheria broke out. Four cases with two deaths occurred. The disease, wherever first contracted, was made fatal by bad surroundings, notably bad water. Chickens were stated to have likewise been suffering from an attack of diphtheria.

In these Whitby cases, it was abundantly manifest that the duration and extent of the outbreak was largely due to imperfect isolation or none at all in first cases; to the mixing of mild cases, before complete recovery, with other susceptible children, and to the incompleteness of the disinfection carried out, both as regards infected persons, clothing and houses.

9. Early in December, reports from Innisfil township, in Simcoe county, indicated the presence of an unusually severe outbreak in the neighbourhood of Churchill village. The disease had been introduced into the locality in the person of a pupil who had returned home sick from Bradford, late in the autumn. He had been mildly sick, and the first cases, being in a good farm-house, were looked upon as little more than ulcerated sore throat.

From there the disease was conveyed to a number of adjoining farm-houses, and obtained a hold amongst the school children. Near by the school-house was a semi-pauper family living in an old log house, and in a most unsanitary condition. Nearly all the children of the house died. The Local Board acted energetically when once the gravity of the outbreak appeared, and much was due to the local physician for his thorough and painstaking endeavours in the matter. Your secretary visited the locality, and advised as to the measures most likely to limit the spread of the disease. Notes from my diary indicate the methods of propagation of the disease, where it had not been known for years, to have been directly due to contagion carried by school children.

10. In October, information was received that malignant diphtheria had broken out in Brighton township, Northumberland. Within a few days eight deaths had occurred, there being three in one family. The action of the Local Board of Brighton was tardy, and the alarm spread to surrounding townships, which called loudly for action. A general surveillance of infected houses and persons was instituted by the three townships in the neighbourhood where the cases were. The following prompt action of the Medical Health Officer was taken, on a telegram being sent from this Department:

Dr. P. H. Bryce:

DEAR SIR,—Your telegram received. On Thursday last, 25th Oct., I visited the diphtheritic district, township of Brighton, and had all the houses placarded, and left the Sanitary Inspector in charge. I reported to the Brighton Board that:—

1st. All the school-houses should be thoroughly cleaned and disinfected.

2nd. The cheese factory to be thoroughly renovated, and all hog-pens and hogs to be removed therefrom, as the disease started there.

3rd. Certain wells to be cleaned (naming them).

4th. A nurse to be sent to one of the houses, etc.

And they acted accordingly.

This disease has been going on since August, and never reported to me or the Board until Tuesday last. The first case (at the factory) died, and I am informed that the school children went in to see the corpse, and from that it got into the school.

I think I have got the disease under control, and shall very likely not lose any more cases.

Yours truly,

N. B. DEAN.

This prompt action was effective, but the Medical Health Officer found difficulty in restraining people from infected houses from going abroad to town or market. The complaint was made, too, that no nurse could be found to go into the infected district.

The following is a curious illustration of how promptness of action frequently characterizes officers of health. A case is referred to your Secretary for opinion, it being that the Medical Health Officer of Belmont and Methven very properly incurred expense in sending a messenger to Havelock, stating that a man would be prevented from taking his child, dead with diphtheria, to Cobourg, a distance of forty miles or more, the funeral having to pass through Norwood, within said officer's jurisdiction.

Other illustrations from correspondence might be given, further illustrating the many conditions under which the disease appears, or which aid in its extension.

But of the many outbreaks which have occurred those in the unorganized newly settled districts of Muskoka, Parry Sound, Haliburton and Nipissing, lying to the south of Lake Nipissing and the Ottawa River, and in the new railway towns which have sprung up along the Canadian Pacific railway, between Chalk River, near the Ottawa, and Port Arthur, at the head of Lake Superior, have been of the greatest extent and moment. It will be remembered that in the report for 1887, was printed the report of Dr. C. S. Elliott who had acted as a Medical Inspector of the Board and made a visit to some of the points along the railway, south of Lake Nipissing. The earliest complaints this year came from Chapleau, on the C. P. R., north-west from North Bay. Courteous and full information regarding authorities along the line was supplied to the Board by Dr. R. B. Struthers, supervising physician to the Company in this reigon. He pointed out that in the absence of municipal organization there was no controlling power in these towns over settlers who were not in the employ of the Company, and indicated the necessity for the matter being dealt with by the Government. Practical difficulties were in the way owing to the fact that the machinery of the Public Health Act did not readily admit of application to unorganized districts, and it was doubted whether the powers and duties laid upon municipal Local Boards could, in cases other than the mere handling of contagious disease, be made applicable to the abatement of nuisances, closing of foul wells, etc., and be exercised in these districts.

Regarding the matter, however, the following action taken by the secretary was approved by the Board as per extract from minutes:

August 17th, 1888.

The chairman detailed the circumstances of the recent outbreak of diphtheria at Chapleau as also the action taken by the secretary, acting under his instructions *re* the temporary appointment of Dr. R. B. Struthers, travelling physician of the C. P. R., as a Medical Inspector of this Board, to take action in outbreaks of disease, and in regard to all other matters relating to the public health in the unorganized districts of Ontario, and especially along the line of the C. P. R. west of Chalk River to Port Arthur.

In the interval preceding the time when govermental action might have been taken the disease abated at Chapleau, Schreiber, etc., through the exertions of the C. P. R. physicians at these points, and nothing further was done until November, when renewed reports came from the wide district of Parry Sound and Nipissing of the fatal prevalence there of diphtheria. Your committee on epidemics, at the suggestion of the secretary, instructed Dr. Lehmann, who had been up to this time engaged in smallpox work, to proceed to this north country and obtain as accurate information as possible regarding the extent of prevalence of diphtheria.

The following is a copy of his report on the subject:—

December 12th, 1888.

To the Members of the Provincial Board of Health:

Gentlemen.—I have the honour to present to you report of work done in the Districts of Parry Sound, Nipissing and Algoma, in connection with the outbreak of diphtheria. Beginning at the Village of Sundridge, in the organized Township of Strong, on the Grand Trunk Railway about forty-five miles south of North Bay, last year there were twelve cases of diphtheria and five deaths in the Township of Strong, a little west (five miles) of Sundridge. With a Board of Health and an active Medical Health Officer, Dr. Toole, it was soon stamped out. This year there has been a number of cases of a very mild type of diphtheria with one death.

South of Strong is the Township of Armour, (organized) including Burk's Falls, and West Chapman, also organized with the Village of Magnetawan, at both of which villages there are licensed practitioners. To the north of Strong are the Townships of Machar and Laurier, and directly east Joly, all unorganized, and all lying conveniently to be handled by the Medical Health Officer at Sundridge.

In all of these townships there have been a large number of cases of a mild type of diphtheria, the type becoming more malignant as we go north towards Lake Nipissing, and west in the townships lying to the south of and bordering on French River. North of Laurier along the line of the Grand Trunk Railway is the Township of Himsworth, unorganized, including the Village of Powassan. West of Himsworth is Gurd, also unorganized, and including the small Village of Commanda.

North of Himsworth is the Township of North Himsworth, organized, and including the Village of Callender on Lake Nipissing.

West of the Townships of Nipissing and Gurd are Patterson, Hardy, Pringle, Mills, McConkey and Wilson, all unorganized, and containing a considerable population of settlers and lumbermen, having a very large number of cases of diphtheria with a percentage of deaths very large.

No medical attendance, sanitary condition very bad, both as to dwellings, water supply, garbage and privy regulations.

A Dr. Kidd is said to have lately settled at French River P. O., near the mouth of French River, and goes as far east as the edge of McConkey, and the doctors at Powassan and Sundridge go as far west as Commanda; but the half dozen townships above named, lying between, are entirely without medical help and the disease goes on without any attempt to check it. Dr. Porter at Powassan has had under observation in the village and country surrounding thirty-eight cases with eleven deaths.

The water-supply of the district at all times bad is this year much worse on account of the exceedingly dry summer followed by very wet fall. The wells are nothing more than holes a few feet deep dug in the beaver-meadows, which dried up in the summer and when the fall rains began filled up with surface water poisoned by decaying animal and vegetable matter, the privy and stable being very often in close proximity to the so-called well.

The village and townships surrounding being unorganized, isolation is impossible; fumigation is carried out in some cases in the village but most people in the country are very poor and careless about such matters. In many cases there is no money to pay for carrying out the regulations and in none is there law to enforce them.

About twenty miles north of Powassan is North Bay a rapidly growing village at the junction of the G. T. R and C. P. R. Railways, in the Township of Widdifield.

The village is not yet incorporated, but the township is organized and has a very efficient Board of Health with Dr. Carruthers, Medical Health Officer, Mr. Ferguson, Reeve, and Chairman of the Board, and Mr. Cormack, Druggist, Secretary. It is expected that the village will be incorporated next year, after which the Board of Health will endeavour to get enough assistance from the government and railroad companies to enable them to build a hospital.

There has been so far this season at North Bay, sixteen cases of diphtheria with four deaths. The first case occurred in Dr. Carruthers' family. An old privy of construction days, situated on the next lot and very close to the doctor's house was removed a short time before the child took ill. The stirring up of the old privy matters may have had something to do with it. The water-supply at present is largely drawn from the lake by teams. There are also some wells which generally speaking are in pretty good condition, but a few of them bad. In the houses where diphtheria occurred, people were using what appeared to be good water.

Drs. McMurchy and Howey, of the Canadian Pacific Railway, are also at North Bay.

There are some good townships north of North Bay, and the Government have opened a new road from North Bay to Lake Temiscaminigue, which will be rapidly followed by settlement and lumbering operations, and if better regulations are not observed an outbreak of diphtheria or some other contagious disease in a year or two will probably occur.

East of Lake Nipissing are organized Townships of Ferris and Bonfield and the country is partially settled all along between the lake and the Ottawa River.

In all this territory there have been a very large number of cases of diphtheria, but of a mild type and few deaths.

There is a licensed Dr. at Mattawa.

West of North Bay there are scattered settlements along the line of railroad for seventy or eighty miles. The Township of Springer, including the Village of Sturgeon Falls, is organized, but there is no doctor between North Bay and Sudbury, where there is extensive copper mining, and the mining company have a doctor. North-west of Sudbury, for several hundred miles along the main line there is neither settlement nor lumbering and never will be. Chapleau, a village of about 500, about 250 miles from North Bay, and composed entirely of railroad men and traders who supply them, has had an outbreak of the most malignant type of diphtheria. So far, eighteen cases with ten deaths. The Canadian Pacific Railway Company have a hospital and Dr. Arthur is the Canadian Pacific Railway surgeon in charge. Dr.

Struthers, who is stationed at Algoma Mills, was also at Chapleau assisting Dr. Arthur at the time of my visit.

The Canadian Pacific Railway are very liberal, and although they had gone to several thousand dollars expense for draining previously at North Bay, yet when the diphtheria broke out, at the suggestion of the doctor, the Company put in a new drain which cost $2,200.

The company also have very good water pumped up from the lake and offer to supply all the people from their tank free of charge.

They can compel their own employees to use proper water and clean up their privies and garbage; but the other people who have bought lots and built their own houses do just as they please, and the consequence is a most deplorable condition of sanitary affairs. The land is low and swampy, water can be obtained by digging a few feet. The soil being of coarse sand and gravel is very porous and allows the soakage from the privies, stables and garbage heaps to get into the wells.

At Schreiber, 150 miles north-west of Chapleau, a few cases occurred with conditions very similar to Chapleau.

The thing most urgently needed in all these unorganized districts, is some person whether medical man or not, who will have sufficient authority to compel people to clean up their privies and garbage heaps and use the best water available.

For the Parry Sound District, the doctors of Parry Sound, Magnetawan, Burk's Falls, Sundridge, Powassan and French River, might be appointed Medical Health Officers for the respective townships in which they live, and the unorganized townships adjoining them, and then if a couple of other doctors were given some encouragement to settle in the district, for instance, one at Commanda or a little farther west, and another say at Byng Inlet, between French River and Parry Sound, the District of Parry Sound would be pretty well supplied. The Powassan District might include the neighbouring townships of Nipissing, North Bay, Mattawa and Sturgeon Falls, which might also be centres for districts. While farther west along the main line of the Canadian Pacific Railway where there are no settlements might be conveniently and cheaply handled by the Canadian Pacific Railway doctors. Their having free passes over the railroad would enable them to do the work of inspection at much less cost.

Your obedient servant,

(Sgd.) W. LEHMANN, M.D.,
Medical Inspector.

Action had not been taken in the matter when the year expired. As it is desirable to give the whole subject in a connected history, I shall here state what has been done up to date of writing. At an early period in 1889 during the sitting of the Legislature Mr. Armstrong, M.P.P. for Parry Sound district, brought the matter before the Government, and upon the adoption of your secretary's report, herewith subjoined, on the subject the following recommendation adopted by the Board was transmitted to the Hon. J. M. Gibson, the head of the Department:

The following motion was then carried:—"That the Board would recommend that the Public Health Act be amended so as to empower the Provincial Board to appoint for unorganized districts Medical Health Officers and Sanitary Inspectors, who shall have power to superintend and execute, under the direction of the Provincial Board, all regulations issued by said Board under clause 14 of said Act, such appointments to be made subject to the approval of the Lieutenant-Governor in Council, and further, that the Board form a committee to wait upon the Government to urge the adoption of the proposals included in the resolution just adopted with regard to the appointment of Medical Health Officers and the amendments to the Act necessary for this purpose."

REPORT OF THE COMMITTEE ON EPIDEMICS RE DIPHTHERIA IN THE FRONTIER TOWNSHIPS IN THE NORTHERN DISTRICTS OF ONTARIO.

JANUARY 6TH, 1889.

To the Chairman and Members of the Provincial Board of Health:—

GENTLEMEN.—In again referring to this subject, which during the last two years has from time to time been brought before your notice in reporting outbreaks in localities extending from the Haliburton district on the east to Chapleau on the Canada Pacific railway, north-west of North Bay, and Manitoulin Island and Cockburn Island to the west, your committee feel that the exigencies of the case are such as to demand such comprehensive action as will aid in recommending and establishing some permanent system of dealing with outbreaks in these outlying districts.

Last year our Medical Inspector, Dr. C. S. Elliott, reported on the North Bay and Sundridge outbreaks, your Secretary has reported on outbreaks about Lindsay, Kinmount and Minden, and Dr. Lehmann, whose report is herewith incorporated, has further reported on the districts south and north-west of North Bay. The reports in every instance show with sad iteration the progress of this fatal endemic disease, at times becoming epidemic, in the sense that attacking all the members of one or several families in a neighbourhood it not infrequently sweeps them all away, or leaves only heart-broken parents to mourn their offspring and their fruitless attempts to bring up a family of children, not more as companions to them in their isolation in the scattered settlements of the back-woods than as helpful hands to aid in that labour so necessary there to obtain, not affluence, but comfort in their declining years in homes whose exiguous means is aptly defined by the classic expression *angusta viæ*, the euphemism of poverty.

To ameliorate the conditions of life amongst those hardy settlers, who, with adventurous spirit, have chosen to leave their homes in older parts of Canada and hew out new ones from the forest, or who in many cases have, with the spirit of our forefathers, been lured from England to the back-woods by the siren voice of the emigration agent, who has filled them with dreams of an Arcady where the rivers swarm with salmon, and the cold winter is but beautiful in its opportunities for recalling the myth of Diana and re-establishing the English hunting-ground in a western land; in both cases, with varying degrees of necessity, our work remains ever the same. The conditions briefly summed are,—

1st. Sparse settlements; these may be made up of from two or three families to three or four hundred settlers in a township.

2nd. Very limited means in the great proportion of instances, making the result a small one, two or at most three-roomed houses. We have recently had by Professors Carnelley and Jamieson, and just now Dr. Russell, of Glasgow, illustrations of how mortality there increases regularly with decreasing rooms; but there can be no surprise that with infectious disease and its saprophytic decomposition, the products of exudation in the pharnyx, etc., being constantly exhaled in a house 12x16 feet, air with closed doors becomes that of a charnel house, and as deadly to the helpless children awaiting to become in turn the victims, and not seldom to the worn-out and heart-broken mother who has seen one after another of the lambs taken from her fold.

3rd. House to house communication, for while settlement is sparse, it is most common to find that through accident of location by lake, stream, or on good land, the few settlers in a township tended to build convenient of access to one another. Pressing need in a stricken house and human sympathy cause one's neighbours to go out and enquire, and at times go in to aid in nursing, or at any rate sit down to discuss the situation, thereby doing all necessary to carry the infection on their clothing from so pestiferous an atmosphere to their children at home. Thus Dr. Curry, of Minden, has stated that along one concession line, of a number of houses, only two families escaped having cases of diphtheria, and they were new-comers not acquainted with the previous settlers.

4th. Distance from medical aid and supplies and absence of municipal sanitary supervision and control. This is exemplified by Dr. Lehmann's report on the Townships of Nipissing, Gurd, Patterson, Hardy, McConkey, etc., all unorganized, containing a considerable population of settlers and lumbermen, having a very large number of cases of diphtheria with percentage of deaths very large, no medical attendance, sanitary condition very bad both as to dwellings, water supply, garbage and privy regulations.

5th. Lumber camps. These complicate the problem very notably. Not only do the crowded shanties become, as it were, permanent seats of infection, affecting susceptible persons from time to time during successive winters, but sick men from them are sent out to the nearest settlement, to which they not infrequently spread the infection, or spread the disease still further by travelling in hot and crowded trains (to southern points where they live) to seek hospital and medical accommodation. Such are the prominent factors in the problem. While it is true that many of the same conditions prevail in well-settled communities, yet it may fairly be said that while in the latter the people are in a position to help themselves, in this northern country the conditions are such as to make action impossible. Few settlers, poor and isolated, are not organized into a municipality, and even if they were the few hundred dollars that they raise annually are spent in roads and bridges.

Schools in these new districts are largely supported by government. The lives of the settlers must, to some extent, come under the ægis of a paternal government.

But how to do this best is the problem. In the materials collected we have it made evident that there are a number of prominent points in the different districts from which work will have to be done.

Beginning as Dr Lehmann has done in his report, we have:—

1. Sundridge District, Dr. Toole, Medical Health Officer. South (*a*) Armour, organized, including Burk's Falls Village, Dr. Caughell; West (*b*) Chapman, organized, including Magnetawan Village, Dr. Walton; North (*c*) Machar, unorganized; North (*d*) Laurier, unorganized; East (*e*) Joly, unorganized.

2. Powassan District. Dr. Porter lives there. (*a*) Himsworth, unorganized, includes Powassan Village; West (*b*) Gurd, unorganized, Commanda Settlement; North (*c*) North Himsworth, organized, includes Callender; Northwest (*d*) Nipissing, organized; Northwest (*e*) Patterson, Hardy, Mills, McConkey, Wilson, unorganized, lumber camps.

3. Suggested new district to be worked from Commanda.

4. North Bay District, Dr. Carruthers, Medical Health Officer (in organized Township of Widdifield); North (*a*), (*b*), (*c*), (*d*).

East Nipissing District. Mattawa has a physician; (*a*) Ferris, unorganized; (*b*) Bonfield, unorganized.

6. North Nipissing District. (*a*) Springer, organized, including Sturgeon Falls; (*b*). (*c*).
7. Sudbury District. Physician in Sudbury.
8. Chapleau District, Dr. Arthurs (C. P.R.), unorganized.
9. Algoma Mills District, Dr. Struthers (C. P. R.)
10. Schreiber District.
11. Byng Inlet.
12. Manitoulin Island District.
13. Haliburton District, townships.
14. Minden District, townships.
15. Kinmount District townships.

This summary of districts, while tolerably complete, might yet be extended; but for present purposes temporary organization on this basis may be considered. Without discussing the various possible ways of dealing with the problem, it may be said that after due consideration the following plan would seem to suggest itself as being the most practicable.

1st. For the districts named, with such alterations as a more intimate knowledge of the directions in which communications are found easiest, it is desirable that physicians be appointed who might be called District Medical Health Officers, and who, through such amendment of the Public Health Act as the law officers may find necessary, would be clothed with all the powers at present laid upon Medical Health Officers of municipalities, and such other powers as the conditions may require. Their duty would be to exercise a general sanitary supervision of their districts, and give the District Sanitary Inspectors such aid in the stamping out of outbreaks of disease as the emergency might demand. They need not be, while regularly appointed, expected to act except when specially called upon by the Inspectors.

2nd. For each of the various settlements, separated often by many miles, there would seem to be but one method of giving them effective aid, and that would be by having in each some competent man, a provincial policeman where possible, appointed a Sub-district Sanitary Inspector, with all the powers at present laid upon sanitary inspectors of municipalities, together with such additional duties as the conditions might demand. Amendment to the Public Health Act would in this case likewise be needed. These officers would be on regular duty at all times, and on them would devolve the every-day inspection and supervision of the sub-district set apart to each.

Should a case of zymotic disease occur, he should be empowered to at once, by methods prescribed from time to time by the Board, so as to isolate the patient, or family, as the case might be, see that the District Medical Health Officer—if no family physician was available—give professional services at their own or the public expense as each case may require.

Water supplies, cleanliness of premises, and such regular sanitary work as is carried on in any efficiently supervised municipality, would give these officials abundant work, while it would educate the people to the observance of sanitary law, until such time as the development of settlement would cause them to be organized on a self-governing basis. The work of organizing this system will demand much careful attention in order that the most effective results can be obtained, and the fewest possible mistakes in details made.

Your Committee would recommend the adoption of the report, and that a Committee of the Board be empowered to present the urgency of the matter to the Minister of the Department, in order that he may take such measures as will best carry out the views of the Board.

All of which is respectfully submitted.

(Signed) FRANCIS RAE.
" C. W. COVERNTON.
" PETER H. BRYCE.
Committee on Epidemics.

This report is but a repetition and extension of the principle set forth in your secretary's report *re* the Haliburton district cases already referred to. His report thereon is as follows :—

TORONTO, April 7th, 1888.

To the Chairman and Members of the Provincial Board:

GENTLEMEN,—Owing to information contained in letters and telegrams from Dr. P. P. Burrows, Medical Health Officer, Lindsay, and acting upon instructions of the Hon. Mr. Ross, to whom a deputation from the County of Victoria had gone representing the dangers resulting from the transportation of cases of diphtheria on railway trains, I went to Lindsay on the 11th of February, and telegraphed the officers of Boards of Health up the Victoria Railroad to meet me there the next morning.

A meeting was held in the Benson House, and the whole subject of how best to deal with the question of isolating cases of diphtheria, etc., in the back townships was discussed. There were present: Mr. Walters, Mayor; Col. Deacon, Chairman Lindsay Local Board; Dr. Burrows, Medical Health Officer; Judge Deans; Mr. Barron, M.P., Lindsay; Dr. Curry, Medical Health Officer, Minden; Mr. Prust, Secretary Local Board, Haliburton, and your secretary.

The following facts were obtained:—According to Dr. Curry 280 cases had occurred in his district within the past three years. Mackintosh's Camp, in Snowden Township, became infected from a person from Muskoka. Scotch Line settlement had had cases in every house but two. A number of instances were given by those present of outbreaks that have occurred through cases introduced from other localities.

The importance of adopting thorough and energetic measures was recognized, and the necessity of making arrangements of a permanent nature was admitted. Isolated hospitals will have to be erected by municipalities, or several municipalities, at convenient centres, the expense thereof to be levied in proportion to assessment. Each municipality should pay the charges for its own patients sent to the central hospital. Patients from outside places, such as the shanties, should in every case be isolated by the Local Board of Health in whose jurisdiction they occur. The charges for maintenance and physician's services should in such cases be borne by the patient himself or by the lumber company in whose employment he may be, or, where there is no such provision, then the Provincial Board of Health may be fairly called upon to pay. The local hospitals should make application, under the Act *re* Aid to Public Charities, for a Government *per diem* subsidy for all patients. The various representatives of the Local Health Boards requested Mr. Barron and myself to urge upon the Government the adoption of the plan herein outlined as being reasonable and fair, and as promising to be effective and thorough. The adoption of some such plan is highly desirable, and the outlay will prove judicious in the end. Thorough precautionary measures should be adopted, and any reasonable and practical outlay in that direction will prove to be money well expended.

The conclusions arrived at in this connection, I may say, seem to me to be applicable to the whole new territory, and is the best, and indeed the only practical means of dealing with contagious diseases in either outlying new portions of the Province or in crowded centres, and it seems to me highly desirable that the Board should deal with the question of isolation or contagious diseases hospitals. Placarding of houses for the commoner contagious diseases of children is in practice inapplicable and fails of its objects. and it would seem that the Board has the duty forced upon it of a reconsideration of the whole subject of the limitation of contagious diseases.

I have the honour to be,
Your obedient servant,

PETER H. BRYCE.

Acting at once upon the recommendation of the Board made on the adoption of the report dated January 6th, 1889, Dr. Hodgetts and Dr. Wade were authorized by the Minister to proceed, under the direction of Dr. Caughell, of Burk's Falls, to the Commanda and Dunchurch Settlements in Nipissing and Parry Sound Districts.

As to the condition of affairs and the nature of the difficulties to be overcome, I cannot do better than present abstracts from the weekly reports sent me by these two gentlemen.

COMMANDA, February 24th, 1889.

P. H. BRYCE, M.D.:—

DEAR SIR,—In accordance with instructions received from the Provincial Secretary, when appointed to this position October 13th, I have the pleasure of making the first of my weekly reports.

Leaving Toronto Friday morning February, 15th, we were detained upon the road by reason of a slight railroad accident; thereby preventing our (Dr. Wade and myself) calling upon Dr. Caughell, of Burk's Falls, that night. However, upon February 16th, we waited upon him, meeting in conference, also with Mr. Armstrong, member of the Local Legislature for this district. As there were reported to be several cases at Dunchurch, it was deemed advisable for Dr. Wade to proceed at once to that place, myself to drive northward with Dr. Caughell.

On Saturday, the opportunity offering, I visited Emsdale. (10 miles) township Perry, making enquiry of the hotel keeper and shop keepers, relative to the prevalence of diphtheria, etc., in that district; the report is *none* there.

Monday morning, February 18th, we left Burk's Falls, driving 17 miles to Magnetawan. Here we called on Dr. Walton, who reported none at present in his locality; he has had two cases this year, (one at Spence died.) From here we proceeded to Mecunoma P.O., 12 miles, remaining for the night.

Tuesday 19th, after leaving Mecunoma, called at School No. 1, Lount. The teacher, no illness among the children. Here I left pamphlets and where I could be found if wanted; also called on Rev. Mr. Bollander, (German), he did not know of any cases now. Arrived at Commanda (12 miles) at noon. As there were reported to be several cases at Commanda Lake, distance 12 miles. we proceeded there after dinner. The teacher School Section No. 1, Patterson, did not know of any cases just now; the school had only just been re-opened, after being closed some time on account of the prevalence of diphtheria. Here I visited three farmhouses, in one they had lost two children with the disease, (January 7th), at the other two I found nothing of the nature of it. When returning to Commanda I found at the farmhouse of John Atchison, 7 miles from Commanda, Boyd Road, two children, John, *æt.* 2 years and Lily, *æt.* 4. both convalescent from diphtheria. This house I will disinfect myself, although Mr. Atchison tells me he has done so, but I fear that here as elsewhere, it has been but poorly attended to.

On Wednesday, the 20th, we proceeded to Nipissing, 12 miles, called at School Section No. 1. Gurd and Pringle, The teacher reported no cases since January. Finding School Section No. 2 closed, I made enquiry at the nearest farmhouse; they reported it closed since December 21st, 1888, not to be re-opened until the expiry of six months, reason: prevalence of diphtheria.

At the Village of Nipissing I found two cases of the disease, in the household of Mr. A. McEachren; they had already lost two children, victims of this fell disease. At the time of my first visit, two children were ill, Agnes, *æt.* 12, ill for a week, and May, *æt.* 18, ill for two days. The house had been quarantined by the Local Board of Health; no medical man had been in attendance since my last visit; both the baby, *æt.* 10 months and the son *æt.* 14 years, have been attacked. In this house, as in nearly all those I have yet visited, I find it most difficult to isolate the cases. The houses, often consisting of one common room, are so roomed off where partitioning is resorted to, that the space within the four walls is like a *common* bedroom, kitchen, diningroom and parlour. However, when necessary, I have sheets hung around the bed, which are kept moist with a solution of carbolic acid.

The wife and six children of Mr. Armstrong, hotel keeper of this place, have all been down with this trouble, although they were convalescing at the time of my visit; this place I am having all cleaned, every room, and disinfected.

On Wednesday February 20th, I visited Powassan, calling on Dr. Porter of that village, his own little boy is at present down with the disease; the doctor knew of no other cases then in or around the village, although he had had about 50 since the commencement of the year.

On Thursday, 21st, drove back to Commanda, 25 miles, calling on the cases at Nipissing on the road.

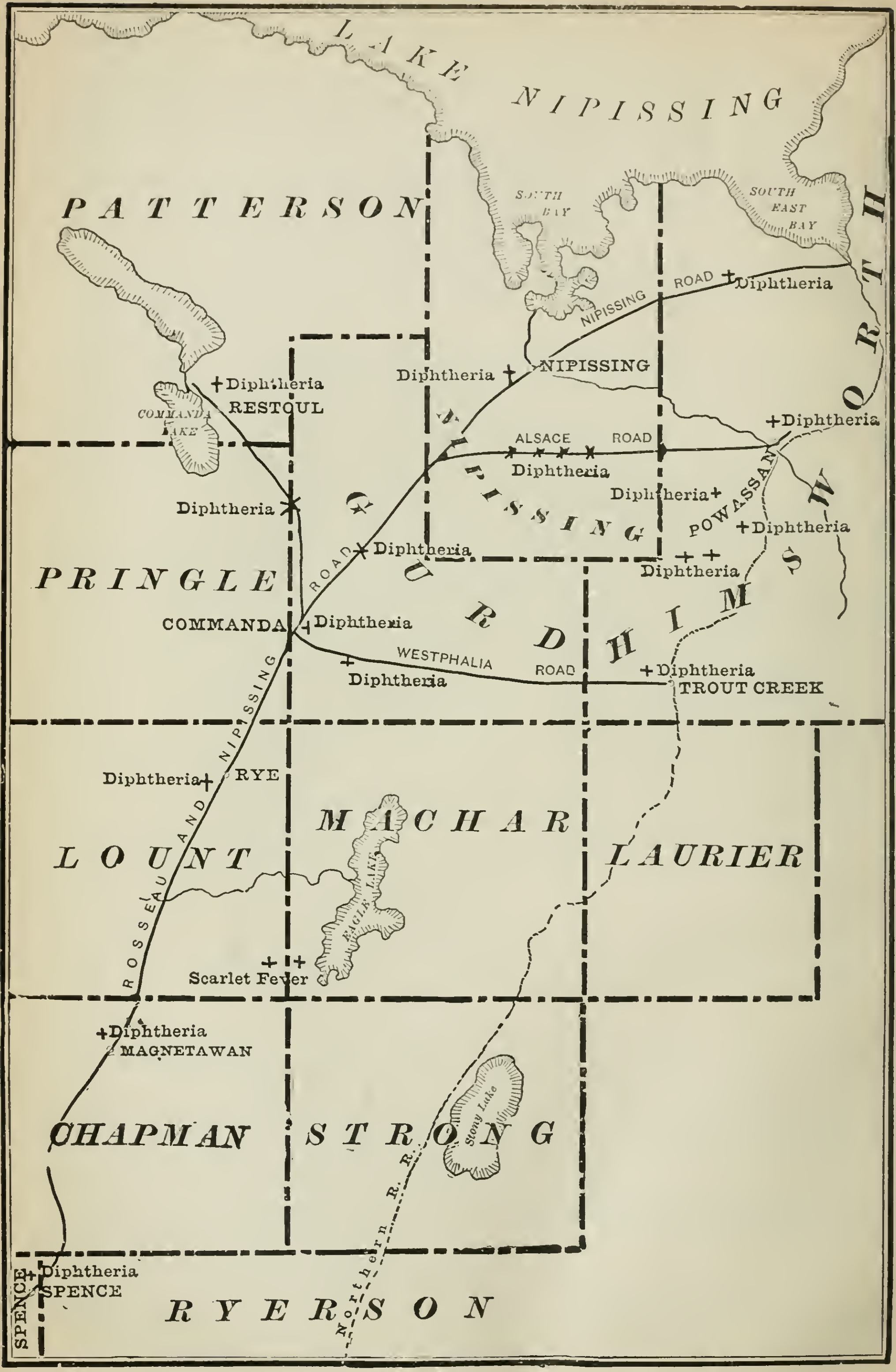
On Friday, 22nd, drove to Trout Creek and back, 30 miles, found one case there, had been ill for a week and had not received medical aid; the child was then dying from sepsis, and although I did all that could possibly be done in the way of food, better hygienic surroundings and medicine. yet I believe he died in the course of that same night. Before leaving I left full instructions with the parents what to do in case of the death of the child, and also as regards the disinfecting of the house. So soon as I can leave the cases now under treatment, I will visit the place again. One great trouble is that by reason of blocked roads the distance to be travelled is greatly increased, and travel is slow by reason of the heavy roads.

Saturday, 23rd, I drove again to Nipissing, where I found the remaining two of Mr. McEachren's family ill, (as mentioned in a preceding paragraph), the two girls were much better; in both cases the membranes, which when first saw them were firm and tough, had come away; in each case I had applied sol papoid, (4½ grs. @ *zi*.)

Five miles north-east on the Nipissing road, I found another case, Samuel Orton, *æt.* 2 years, he had been ill for two or three days. In the house (18 x 20 feet) were three adults and six children, *one common apartment.* I quarantined the place, and as far as possible isolated the case; child and mother in one corner of the house, using a wooden partition, extending into the room for about 8 feet, and carbolized sheets.

PARRY SOUND DISTRICT.

(Area around Commanda infected by Diphtheria.)



This is a brief summary of my work thus far. So soon as the cases now will permit of my doing so, I will visit and clean, *if it be possible*, the farmhouses of those settlers living on the Alsace road, where the disease has made sad havoc amongst the younger portion of the community.

Trusting the foregoing will meet with your approval,

I have the honour to be,
Dear Doctor,
Yours truly,

CHAS. A. HODGETTS.

DR. BRYCE,
Secretary Provincial Board of Health,
Toronto.

COMMANDA, March 4th, 1889.

DR. BRYCE,
Secretary Provincial Board of Health,
Ontario.

DEAR SIR,—In continuation of my first report, I would review in this the second, the work done from February 24th to Saturday, March 2nd.

February 24th,—Visited the McEachren family in Nipissing; then drove five miles to see Mrs. Orton's child; all five cases were making satisfactory progress; returned that afternoon to Commanda, going from there to visit a Swiss family, three miles distant. The case, however, was not one of diphtheria, at least so far as as I could glean from the symptoms and from an examination of the boy. It was most difficult to talk with the family, they being but poorly able to converse in English. I diagnosed follicular tonsillitis, however I took the precautions as if it were a case of diphtheria. It was night when I arrived. In the one common room was a blazing fire, the light from which was all they had to illumine the darkness; as no lamp was to be had, I viewed the throat by the faint flicker of burning slivers of pine.

February 25th—Was called at 5.30 a.m., to go to Nipissing, as the baby and son of Mr. McEachren were much worse. I remained at Nipissing all day, visiting this family three times; the last call at midnight. In the afternoon I visited Mrs Orton; then found the eldest of her girls down. The baby was slightly better.

February 26th—Visited the McEachren family and returned to Commanda. A message having arrived during my absence at Nipissing, asking me to at once proceed to Commanda Lake. After dinner I proceeded thither, (twelve miles); the case, however, was not one of diphtheria. (The people here seemed to have got so scared, that should they have any little trouble whatever with the throat, they jump at diphtheria.)

As there had been a number of cases in this District and the school had been scrubbed and cleaned at the request of the Secretary of School Board, that night I fumigated the place.

February 27th—Drove from the Lake this morning to Restoul, (two and a half miles) to visit the Clark family (supposed case); all however were well; then returned to Commanda; called to see the Atchison family; the children were very much improved.

February 28th—Returned to Nipissing, visiting the McEachren and Orton families. The baby of McEachren's had succumbed to the disease on Wednesday morning, and was buried with proper precautions a few hours sebsequently.

March 1st—Drove to Orton's at 8 oclock a.m., three children are now ill; the last two but slightly attacked; (as these children were weakly things, I had taken the precaution to put them upon a tonic treatment). Upon return to village, visited the McEachren's, who are slowly improving.

In the afternoon I drove down the river four miles to see two Indian families (reported cases). I found them all however well, with the exception of the oldest squaw who had been suffering from a very severe cold. I then returned to Commanda.

March 2nd—Drove three miles to see case diagnosed as tonsillitis; found the boy much better and the house much brighter, lighter and cleaner. The melted snow, instead of flooding into the house, was wending towards the larger stream in little rivulets

I then drove fifteen miles to Trout Creek to inspect the hotel at that point, and see if instructions given had been carried out. I am pleased to report satisfactorily. Mr. B. has very carefully carried out my instructions; rooms have been cleaned; carpets, the pieces that were in bed-rooms burned, etc., ; walls lime washed; each room fumigated; and he is to again wash floors and paint with a solution of hyd. puchlor. I feel I cannot be too particular with these inns or hotels, as I fear in the past they have been centres for the spread of the disease.

The foregoing is my weeks' work. The great trouble is for me to get horse and cutter, as at present all those fit for anything are busy in the woods, so perforce one has to be content with anything. The roads in the early part of the week were heavy from drifts, while the sun of the past three days has done much to break them up; nevertheless, I have during the past two weeks covered over 300 miles.

As regards the water at Nipissing, I should like to have a sample of the river water analyzed as of this the majority drink; also a sample or two of well water. Will you kindly instruct me as to this matter.

All of which is respectfully submitted.

Yours truly,

CHAS. A. HODGETTS.

COMMANDA, March, 10th, 1889.

DR. P. H. BRYCE,
Secretary Provincial Board of Health,
Ontario.

MY DEAR SIR.—I have the honour to report the following, being my last week's work. Monday, March, 4th,—drove to Nipissing, where I visited the McEachren family, whom I found improving. The Orton family received two visits this day from me, the first being made about twelve o'clock noon, while the evening visit was at about nine o'clock.

I would here remark relative to the Orton and Harrington children, whom I described in my last report as being huddled together in a shanty 18x20, that since Mrs Orton's baby was taken ill the following others have had it, viz, Clara Orton, aged 13 years; Alice Harrington, aged 2 years; David Barr, aged 10 years, (hired boy); Jessie Orton, aged 5 years; of the five children, these three died, Samuel Orton, aged 2; Alice Harrington, aged 2; Jessie Orton, aged 5; the other two children are doing very well. In this family I fear the directions given (written out) were not faithfully followed, the mothers in their despair resorting to patent medicines and dieting in ways peculiar to themselves, in the last two cases they had ceased giving stimulants for the twelve hours preceding my visit. The only child that has escaped the disease thus far is the baby aged four months. The Local Board of Health attended to the burial of the bodies. In each case the body was buried as soon as the coffin could be made. In the case of one of the children I myself wrapped the body in a sheet soaked in sol. of hyd. puchlor, leaving sufficient in the house to saturate sawdust to pack around it.

March 5th.—I paid an early call on the Orton children and on returning to the village visited the McEachren family, afterwards returning to Commanda.

March 6th.—Not being able to hire a horse I was perforce compelled to remain at Commanda.

March 7th.—In a drifting snow storm I left this 8 a.m. for Eagle Lake, (20 miles); while on the way a messenger overtook me, asking me to visit a child ill at Rye P.O., Nipissing Road, 7 miles below Commanda. It proved to be a case of diphtheria. The child Olive Mullin, aged 3, lives at Nipissing and had only been removed a few days previously to where I attended her; the father informs me that for some weeks past he has kept his wife and two children upon an island on Lake Nipissing, thinking thereby to escape the trouble, but the house being cold he brought wife and baby home to it, bringing the little girl down here (20 miles)

In this case I was able to secure an isolated room with two members of the family to act as special nurses; there are no children in the household.

I arrived at Uplands P.O., Eagle Lake late in the evening.

My reason for visiting this place was, I had it reported that at least two families had scarlet fever.

March 8th.—I visited three families in this locality in two of which the children had been ill with the scarlet fever; and were now in the stage of desquamation.

The two families live about eighty rods apart; the disease appeared simultaneously in both houses, (3 weeks ago) in one that of Munroes. Dr. Toole of Sundridge saw the first case pronouncing it scarlet fever, the Church children he did not but sent them medicines.

The names are as follows, in order; Munroe's,—J. Alexander, *æt.* 8; Percy, *æt.* 5; Maggie, *æt.* 6; Jessie, *æt.* 3; Frank, *æt.* 4; baby, *æt.* 10 months. Church's,—Charlie, *æt.* 5; Martha, *æt.* 14; Susan, *æt.* 7; Francis, *æt.* 2.

These families were very much astonished when I told them how dangerous it was for them to be mixing with other people and that they must consider themselves quarantined for a period of seven weeks dating from the time the last child took it. I gave instructions how to heat the children and left them some tonic medicine. I also visited the Quirt family, seven children, Muskoka Road, but found here nothing more serious than tonsillitis. This day (8th) I returned as far as Rye, when I remained up part of the night with the little girl (Olive Mullen).

March 9th.—Visited the child again this morning, afterwards drove nineteen miles to Nipissing; after tea visited the McEachrens and drove out to see the Ortons, the child Jessie dying while I was there; returned to Nipissing at eleven p.m.

March 10th.—Visited the McEachren family and then returned to Commanda.

The roads during the past week have been very heavy from the drifting snow storms which prevailed for the first three or four days of the week.

All of which is respectfully submitted.

Yours truly,

CHAS. A. HODGETTS.

COMMANDA, March 17th, 1889.

DEAR DOCTOR,—I have much pleasure in transmitting this my fourth weekly report *re* diphtheria outbreak in Parry Sound District.

March 10th, before leaving Nipissing I visited the McEachren family, all of whom were progressing favourably. Drove to Commanda in the afternoon.

March 11th, in the morning visited the child at Rye, and in the evening was called six miles to visit a child on the Westphalia Road. The child, Willie Bouler, aged 3½, presented no other symptom but that of slight fever (100° F.). It was in this house that the case of tonsillitis had occurred, which I reported two weeks ago. The family are Swiss, and live huddled together in the most miserable and dirty place it has yet been my lot to visit. I gave instructions to the parents to send for me should the child become worse, and that I would leave Commanda for Nipissing upon the Wednesday.

March 12th, again visited the case at Rye, which was progressing very favourably indeed.

March 13th, drove to Nipissing, and upon this and the 14th visited the Ortons twice, also the McEachrens. The infant of Mrs. Harrington, the only one not having had the diphtheria, was ill with pneumonia. The other two children (Mrs. Orton's daughter and hired boy) were doing well.

March 15th, returned to Commanda, and from there went to the Swiss family. It appears the child had taken worse on the Tuesday, but they had not called for me until the Thursday, and in the meantime, according to their own statement, they had given the child little or no nourishment, just because, to use their own words, " the child won't take it." This proved a case of diphtheria, the little boy dying from blood-poisoning and asthenia. I feel sure this case was lost through the stupidity of the parents. Either th y won't understand plain English, or can't. In this case there appears more of the former than the lat er. Now three others of the family are down with the malady. One great trouble in this case is to obtain sufficient milk for the children, the father having to travel miles for it, none of the neighbors about having milking cows.

The filth about this farmhouse is terrible. Now that the snow is melting the place is surrounded with stinking barnyard mud. The interior of the house is beautifully decorated with ancient cow dung. The house itself is about 15 x 24 interior measurement, and is the abode of eight or nine people.

March 16th, I visited the Rye case, driving afterwards to the Swiss family.

I am very much afraid, now the season has begun to break, that I shall have perhaps other cases very similar to the above. It would require a posse of police to keep watch and ward over some of these stupid foreign settlers.

Enclosed you will find a rough map of my district, with position of cases marked. Before my return I trust to be able to make one out more in full.

All of which is respectfully submitted.

Yours truly,

CHAS. A. HODGETTS.

P. H. BRYCE, ESQ., M.D.,
Secretary Provincial Board of Health,
Toronto.

COMMANDA, March 24th, 1889.

P. H. BRYCE, ESQ., M.D.,
Secretary Provincial Board of Health,
Toronto.

DEAR SIR,—I have the honour to report as follows of my past week's work :—

March 17th, visited the Bouler family.

March 18th and 19th were spent in going to Nipissing, visiting the McEachren, Orton and Harrington families. I also went to Orton's house, inspecting it and giving instruction as to the proper disinfection of the same.

At Nipissing I inspected Mr. Armstrong's Hotel, which he had finished cleaning and disinfecting.

It was late in the evening of the 19th when I arrived back at Commanda, the roads being very heavy, necessitating my walking for some miles.

March 20th, visited the Bouler family, whom I found slowly improving.

March 21st, visited the case at Rye, from which place I visited a family some two miles back in the bush, reported to be down with diphtheria, but am happy to report the said to be incorrect. (The people are so panicky that with the least sore throat they send for me, necessitating my travelling many miles. Of course I must go to make sure).

March 22nd, 23rd and 24th, each of these days I visited the Bouler family, having to walk the greater part of the distance each day, there being no farmhouse near by where I could remain the night.

These children are slightly on the mend; their constitutions are so frail that convalescence will be somewhat prolonged.

I am pleased to be able to report no new cases during the past week.

I find that the majority of the children throughout this district have never been vaccinated. Could I not be furnished with vaccine, and let it be known that the children could be vaccinated by me? Such a measure might save further trouble in this district as far as regards smallpox.

I have the honour to be,
Yours truly,

CHAS. A. HODGETTS.

COMMANDA, March 31st, 1889.

DR. P. H. BRYCE,
Secretary Provincial Board of Health,
Toronto.

MY DEAR DOCTOR,—I have the pleasure of submitting my weekly report as follows :—

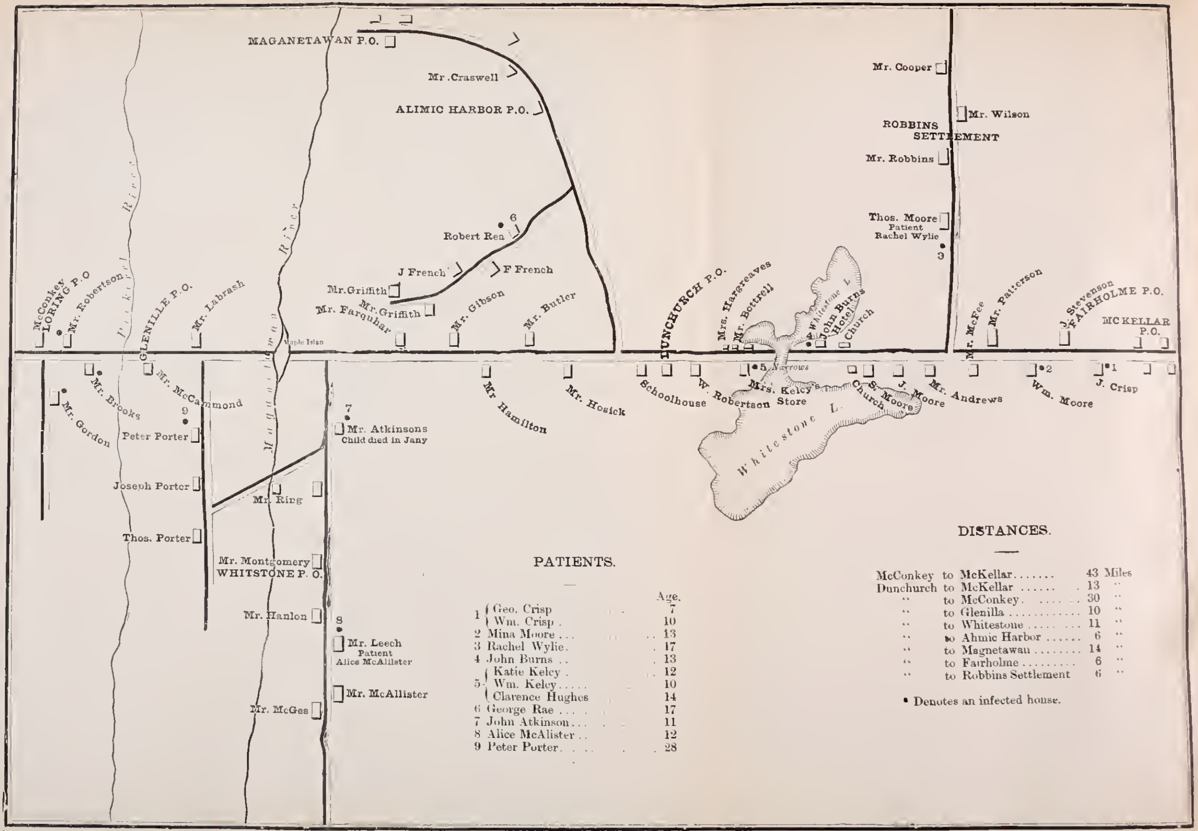
Sunday, March 24th, I visited the Bouler family, walking the six miles, as the road was impassible with a sleigh or buggy.

Monday 25th, I went to Nipissing, inspected Mr. McEachren's house and released them from quarantine; also visited a supposed case a mile out of the village.

Tuesday, 26th, early in the morning was called to a case of sore throat; walked the five miles to Harrington family; also inspected Mr. Orton's house, which had been thoroughly disinfected and cleaned.

Wednesday, 27th, in company with the Secretary of the Local Board of Health, I visited two supposed cases some six miles from Nipissing, on the Powassan Road. There, however, proved to be no truth in the report as given to me by a neighbour. We afterwards inspected the houses upon Alsace Road, Township of Nipissing, in which diphtheria had been. Two of the four had been properly disinfected and lime-washed within; bedding and clothing also. Another had been washed simply. Here I ordered the walls to be limed within, and all the clothing and bedding disinfected. At the fourth house, Schafers', in which six children had died, I found nothing had been done, and the husband was away in the shanties. The woman could not understand English. In this case I will see the Local Board, which meets in Nipissing to-morrow, and take steps at once to put the shanty in a proper sanitary condition.

Thursday, March 28th, from Alsace Road I returned to Nipissing, having to change from sleigh to wheels. From there I returned to Commanda.



PATIENTS.

		Age.
1	Geo. Crisp	7
	Wm. Crisp	10
2	Mina Moore	13
3	Rachel Wylie	17
4	John Burns	13
5	Katie Kelcy	12
	Wm. Kelcy	10
	Clarence Hughes	14
6	George Rae	17
7	John Atkinson	11
8	Alice McAlister	12
9	Peter Porter	28

DISTANCES.

McConkey	to	McKellar	43	Miles
Dunchurch	to	McKellar	13	"
"	to	McConkey	30	"
"	to	Glenilla	10	"
"	to	Whitestone	11	"
"	to	Ahmic Harbor	6	"
"	to	Magnetawan	14	"
"	to	Fairholme	6	"
"	to	Robbins Settlement	6	"

• Denotes an infected house.

Friday, March 29th, I visited the Bouler family and found that the baby was now ill with the disease. Before going I had replied to your letter in which I reported only three cases in this house. This now makes a fourth in the first week of the disease.

Saturday, I again visited the Boulers, returning to Commanda and driving to Rye to see the child Mullin, who will be free on Tuesday next. In this house the house and clothing has been fumigated, bedding burned, bedstead washed with hyd. puchlor, and rooms lime-washed.

The Bouler family are in wretched circumstances. I have had to provide them with milk, etc. If no fresh cases occur I think perhaps I might see this family over and then return. They are some sixteen miles from any doctor.

With kindest regards,
I remain yours truly,

CHAS. A. HODGETTS.

COMMANDA, April 9th, 1889.

DR. P. H. BRYCE,
Toronto.

MY DEAR DOCTOR,—In prospect of my returning next Monday to Toronto, I have completed disinfecting the houses, and have spent the last few days visiting the houses in the Barrett Settlement, where cases occurred some months ago. Travelling, however, is very difficult now, on account of the breaking up of the roads.

The Böler family are now doing well.

No new cases have been reported.

With kind regards,
I remain, yours truly,

CHAS. A. HODGETTS.

DUNCHURCH, PARRY SOUND DISTRICT. February 19th, 1889.

PETER H. BRYCE, M.D.,
Secretary Provincial Board of Health,
Toronto.

DEAR DOCTOR,—I arrived at Burk's Falls at 12 o'clock on Friday evening.

On Saturday morning, following the instructions of the Provincial Secretary, I called upon Dr. Caughell, and consulted with him as to the best mode of operating in the affected districts, and as to the locality where it would be advisable for me to locate.

Dr. Caughell thought it unnecessary to spend any time in visiting different localities, but advised me to proceed at once to Dunchurch, where it was reported the epidemic was just breaking out, and I accordingly acted upon his advice.

Mr. Armstrong, who reresents Parry Sound District in the Provincial Parliament, also advised me to locate at Dunchurch.

Providing myself with a small quantity of drugs, as my stock from Toronto had not arrived, I immediately set out for Dunchurch, and reached here at 6 o'clock on Saturday evening.

Dunchurch, situated on Whitestone Lake, is a small village, but contains a large number of children, there being over 70 names on the Public School register.

Two deaths had occurred from diphtheria previous to my arrival; Katie Kelsie, aged 12 years; William Kelsie, aged 10 years. Two children were suffering from the disease at the time of my arrival; John Burns. aged 13 years; Clarence Hughes, aged 14 years.

On Sunday afternoon, I was called to see Geo. Rae, aged 17 years, and found well marked symptons of diphtheria. I at once isolated him from the rest of the family, with the exception of one attendant.

On Monday, I closed the Public School, the store owned by Mrs. Kelsie, where Clarence Hughes is confined, and the hotel of John Burns father of the patient John Burns.

All intercourse except that which is absolutely necessary, is prohibited with the houses in which the disease is located, and isolation enforced to the fullest extent possible, and I am hoping to prevent a further spread of the disease.

At Loring. 30 miles north of Dunchurch, the disease has committed terrible ravages; but there is a lull at the present time. I have sent 30 pamphlets, and if there is any fresh outbreak, I will try and visit Loring, twice a week.

Please send me 50 more pamphlets on "Rules for checking the spread of Contagious or Infectious Diseases."

I remain,
Yours respectfully,

WILLIAM R. WADE, M.D.

DUNCHURCH, PARRY SOUND DISTRICT, February 26th, 1889.

P. H. BRYCE, M.D.,
Secretary Provincial Board of Health,
Toronto.

DEAR DOCTOR,—Since sending my report last week, I have had two new cases of diphtheria: Rachel Wylie, aged 17 years, living five miles south-east of Dunchurch, and Mina Moore, aged 13 years, living four miles south of Dunchurch ; both cases I believe received the contagion from Mrs. Kelsie's store, which, as I stated in my last letter, was closed a week ago yesterday.

Both the new cases, as well as the older ones are progressing favorably.

I received a call last evening from Dr. Caughell, as he was returning from the north, where he has been working with Dr. Hodgetts. He stated that Dr. Hodgetts needs assistance badly, but agreed with me in thinking that it is necessary for me to remain here several weeks longer, in order to carry out the precautions necessary to prevent a further spread of the disease.

I have only a few cases, as you will see by my reports, but they are so widely separated, and the roads are in such a bad condition, that it requires nearly all my time to look after them properly.

I have secured a horse and cutter, and on Thursday or Friday, if my patients are in such a condition that I can leave them for a couple of days, I intend visiting Loring, thirty miles north, for the purpose of fumigating the houses where the disease has been located, and for giving any instructions that may be necessary in connection with the disease in that place.

I remain,
Yours respectfully,

WM. R. WADE, M. D.

P. S.—I received to-day the fifty pamphlets on "Rules for preventing the spread of Contagious and Infectious Diseases."

DUNCHURCH, PARRY SOUND DISTRICT, March 5th, 1889.

PETER H. BRYCE, M.D.,
Secretary Provincial Board of Health,
Toronto.

DEAR DOCTOR,—Your letter of March 1st received to-day. I will not be able to send the diagram you require with this report to-morrow morning on account of the shortness of time in which to prepare it, but will send it by the next mail, which leaves here on Friday morning.

I have had one new case of diphtheria since sending my last report—Peter Porter, aged 28 years, residing about eight miles north of Dunchurch ; he, I believe received the infection at McConkey (Loring).

All of my cases are doing well, the majority of them being convalescent.

On Friday last I went to McConkey, thirty miles north, and returned on Saturday ; there are no cases of diphtheria there at present. All that is required at that place now is to disinfect the houses in which the disease has been located, and I intend visiting McConkey again next Friday for that purpose.

There have been seven deaths at McConkey from diphtheria—so the people state—but I did not obtain the names of all the deceased. Two of the patients who recovered are suffering from diphtheritic paralysis which I will treat on my next visit, since I did not have the necessary medicines with me last week.

I remain, respectfully yours,

W. R. WADE, M.D.

DUNCHURCH, PARRY SOUND DISTRICT, March 12th, 1889.

DR. PETER H. BRYCE,
Secretary Provincial Board of Health,
Toronto.

DEAR DOCTOR,—Enclosed you will find a rough diagram of this district. It is not necessary for me to say that I am a poor hand at drawing as my diagram shows it. On account of the number of patients and the distances I had to drive to see them I was unable to send the sketch at the time I mentioned in my last letter.

Since sending my last report I am sorry to say I have had three fresh cases of diphtheria—George Crisp, aged seven years ; Wm. Crisp, aged ten years ; Alice McAllister, aged twelve years. The disease has not shown itself at Dunchurch since I came here, but breaks out in the surrounding settlements notwithstanding all my efforts to subdue it. George and Wm. Crisp live at Fairholme, seven miles south of Dunchurch, while Alice McAllister lives at Whitestone, eleven miles north-west of Dunchurch.

I have to report all my cases doing well, except Alice McAllister, who is in rather a critical condition, but I do not anticipate a fatal termination of her case.

I was unable to visit McConkey last week, but will endeavour to do so next week if I have no new cases in the meantime.

As you will see by my reports, I have not a large number of patients to attend but the distances I have to drive to see them, and the condition of the roads, take up so much of my time that I am busy from early morning till late at night, and I often find it necessary to use two different horses for one day's driving.

Awaiting any instructions you deem it necessary to give,

I remain, yours respectfully,

W. R. WADE, M.D.

DUNCHURCH, ONT., March 19th, 1889.

PETER H. BRYCE, M.D.,
Secretary Provincial Board of Health,
Toronto.

DEAR DOCTOR,—This week I have a more satisfactory report to send. I have had no new cases of diphtheria since sending my last report and my patients are all doing well, so well that after this week I do not think they will require medical attendance. By Saturday evening I will have fumigated thoroughly, I believe, all the houses in which the disease has been located, except that of Mr. Jonathan Crisp, Fairholme, and Mr. Leitch, Whitestone, where Alice McAllister has been confined. It would of course be too early to fumigate these two houses, but the people are very intelligent and agree to carry out my instructions minutely with reference to fumigation, disposal of bedding, etc., after I supply the required amount of sulphur, viz. three pounds for every thousand cubic feet of space.

On Sunday night I went to McConkey, reaching there at six o'clock Monday morning, and returned Monday night. The roads are in such a state that travelling by day is almost impossible owing to the heat of the sun thawing the snow, which is still very deep in some places, and allowing a horse to sink down, but the frosts at night renders the roads more passable. Between seven o'clock in the morning and eight o'clock at night I fumigated all the infected houses at McConkey.

The following are the names of those who died of diphtheria at McConkey :—Frances Robertson, aged three years ; John O'Reilly, aged twenty-four years ; Martha Curry, aged seven years ; Livinia Brooks, aged seventeen years ; Laura Gordon, aged two years ; Lizzie Forsyth, aged five years ; Lucy Forsyth, aged two years.

The school here at Dunchurch was opened on Monday last

If no new cases appear I hope to be able to report at your office in person on Tuesday next.

I remain yours respectfully,

W. R. WADE, M.D.

DUNCHURCH, ONTARIO, March 25th, 1889.

PETER H. BRYCE, M.D.,
Secretary Provincial Board of Health,
Toronto.

DEAR DOCTOR,—Your letter of the 21st to hand on Saturday evening.

In my last report I stated that I thought of leaving for Toronto to-morrow, Tuesday, but would have been unable to do so even had I not received your letter as I have had two new cases of diphtheria since sending my report ; as it is I will now await a letter from you advising me as to the time you think proper for me to leave.

The two cases above mentioned are Frank Crisp, aged 3 years, and Mary Crisp, aged 15. Both of these are mild cases and I anticipate a speedy recovery. The reason that the disease has spread in the Crisp family, is that isolation was practically impossible on account of the small size of the house and absence of partitions in it.

I have fumigated all the houses where the disease has been except that of Mr. Leitch, Whitestone, and Mr. Crisp, Fairholme; Alice McAllister who was confined in Mr. Leitch's house has been up for over a week and I will see to the fumigation of that house before I leave. Mr. Crisp agrees to follow minutely my instructions with reference to fumigation, disposal of bedding etc., so that I think it safe for me to leave some time this week.

The above mentioned are the only cases of diphtheria in this district, and I believe there is no danger of a further spread of the disease.

Awaiting instructions from you,

I remain yours respectfully,

W. R. WADE, M.D.

In order that some permanent method for promoting and maintaining the health of these districts may be adopted, the Minister of the department introduced at the suggestion of the Board, the following Bill which became law.

AN ACT TO AMEND THE PUBLIC HEALTH ACT.

Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:—

1. Every Stipendiary Magistrate already appointed, or who may hereafter be appointed under the provisions of "The Unorganized Territory Act," shall be *ex-officio* a Medical Health Officer in and for the district for which he has been, or shall be, appointed, and shall possess all the powers of such an officer under the provisions of "The Public Health Act."

2. The Provincial Board of Health may also, subject to the approval of the Lieutenant-Governor-in Council, appoint in any of the unorganized districts one or more sanitary inspectors under "The Public Health Act," who shall possess the powers conferred upon sanitary inspectors under "The Public Health Act," and also all the powers conferred upon Local Boards of Health by section 14 of the said Act.

3. All constables appointed for any Provisional Judicial, Temporary Judicial or Territorial District under "The Act respecting Constables," chapter 82 of the Revised Statutes of Ontario 1887, shall be *ex-officio* sanitary inspectors with the same powers as sanitary inspectors appointed under this Act.

Upon the withdrawal of the Medical Inspectors, your secretary transmitted the following memorandum for the consideration of the Minister. What practical conclusions may be arrived at in the matter, cannot yet be stated as many points demand consideration; but it is hoped that the good beginning made will be continued.

The following is the memorandum:—

Hon. Mr. Gibson: April 15th, 1889.

DEAR SIR,—I have the honour to bring to your notice the outline of a scheme which, if approved, will be the beginning of a systematic work which will be of great permanent benefit, both in saving of life and expense to the settlers of frontier districts; also, at once the solution of a difficult problem which has become more urgent from year to year.

I have had drawn up, and herewith attach for your inspection, a table showing (where obtainable) the municipal statistics of the population and annual expenditure in the four Districts of Muskoka, Parry Sound, Haliburton and Nipissing.

From it you will gather (1) the relative number of organised and unorganized townships; (2) the population (where obtainable) of the organized townships; (3) the amount of moneys annually expended in each and the rate per capita.

Summarized we learn that :

Muskoka.

Townships	22	
Made returns	14	
Villages	3	
Population, townships	9,995	
" villages	3,661	
Total taxes of 14 townships	$24,678	= 2.47 per capita.
" 3 villages	15,514	= 4.24 "

Parry Sound.

Townships	44	
Organized	9	
Returns	9	
Villages	1	
Population, townships	4,961	
" villages	1,329	
Total taxes of townships	$14,988	= 3.02 per capita.
" villages	5,186	= 3.90 "

Haliburton.

Townships	18	
Organized	9	
Made returns	9	
Population, townships	5,573	
Total expenditure of townships	$20,364	= 3.65 per head.
Villages	None.	

Nipissing.

Townships	51	
Organized	6	
Returns	6	
Villages	1	
Population, townships	3,711	
" villages	989	
Total taxes of townships	$6,892	= 1.86 per head.
" villages	2,191	= 2.22 "

This includes only the country south of Lake Nipissing and the Ottawa River, and for the present I shall limit my study to this district.

	Population.		Population of townships.		
Muskoka	13,656	or	9,995	= 14	townships.
Parry Sound	6,290	"	4,961	= 9	"
Haliburton	5,573	"	5,573	= 9	"
Nipissing	4,700	"	3,711	= 6	"
	30,219		24,240	38	

Leaving out the villages in the calculation we have 38 townships each 9 miles square, occupying with the 97 unorganized, roughly, 12 townships north and south by 12 east and west or about 108 miles square. As will be noticed by a glance at the accompanying map, the organized and unorganized townships are not in any particular part of a district, and it would be wholly wrong to assume that the unorganized have no populations, since we have learned that many of the latter have populations equal to those of the former. From information gained through various sources, we estimate the population of the unorganized townships at probably half that of the organized. This would give us, roughly, a population over the districts of 24,000 in organized, and 30,000 in unorganized. But allowing for errors and assuming 50,000 of a population, we then have a population of 50,000 distributed over, say, 108 miles square or over 11,664 square miles.

It will be practically correct to say that we have five persons for every square mile of the whole district or one family of five. This is at the rate of about 400 of a population to each township. Comparing this with an old county with townships having about the same area as, say, the County of Ontario, and we find a population of nearly 3,000 per township in the latter. In the nine organized townships of Parry Sound of about the same area as Ontario County, the value of real property is assessed at about $822,347, while the latter has an assessed value of $15,792,740. Hence with a population seven times as great, and a wealth per township twenty times as great, the per capita municipal expenditure in Ontario County is only $3.63, while that in Parry Sound is $3.02, or an average total per township of $1,600 to be expended for all purposes. The real property assessed in Parry Sound District has an assessed value equal to $165 per capita.

This latter fact illustrates the next point to be referred to viz., the necessarily poor character of the houses. Shanties of one room frequently are the abode of families of five or more members.

The reports of our physicians have, if more than a statement of the fact were needed, illustrated the difficulties of treating contagious diseases under such circumstances. Every susceptible person must inevitably become a victim of the disease, and general reports in addition to those of the above relate, unfortunately too well, the enormous percentage of deaths as compared with treatment under proper conditions.

Another point which presses for prompt consideration is the fact that some thousands of lumbermen and river-men are annually engaged in these districts, and that when they become ill (and the crowded shanties in several districts have become *foci* of diphtheria) the absence of medical aid demands that the sick, for the safety of the others, be sent away. They go to the nearest settlement (as I have multiplied evidence causing me to know), from house to house, and from public conveyance, as stage, rail-car, etc., infecting here and there persons and so spreading the disease, as has been done within three or four years from one end of this district to the other.

The sparsity of population, the broken roads, and the poverty of the settlers (as our figures show) result in a scarcity of physicians to a degree which makes attendance upon diphtheria cases at far off distances almost impossible, since they require prompt attention with careful and intelligent nursing under favourable conditions, and none of these usually are available.

The points at which physicians have settled are mostly along the two railways running north and south, the Northern extension, and the Victoria Railroad north from Lindsay.

There are five colonization roads in the district, the Parry Sound, the Rosseau and Nipissing, the Victoria, the Hastings Road, and the Ottawa and Opeonga, and to cover these 10,000 square miles we have physicians at :—

HALIBURTON DISTRICT.

Dr. Frost, Kimount,	Dr. Curry, Minden.

MUSKOKA DISTRICT.

Dr. Bridgland, Bracebridge, Dr. Williams, Gravenhurst.	Dr. Hart, Huntsville.

Parry Sound District.

Dr. Toole, Sundridge,
Dr. Walton, Magnetawan,
Dr. Applebe, Parry Sound,
Dr. Walton, Parry Sound,
Dr. Porter, Powassan,
Dr. Robbins, Burk's Falls.
Dr. Caughall, Burk's Falls,
Dr. Holmes, McKellar.

Nipissing District.

Dr. Deebe, Sturgeon's Falls,
Dr. Carruthers, North Bay,
Dr. Benoit, Mattawa,
Dr. Earle, Mattawa.

Manifestly, therefore, we have need to lend aid in those districts where none such are, and, since the people are so poor and the population, from successive years' statistics, does not seem to be increasing, where none are likely to settle.

Without discussing the value of the services which an occasional physician sent into a district may perform, I think I may say that such temporary services are both expensive and unsatisfactory. Adopting the plan of bonusing physicians for working in a district would, I submit, be an ill-advised measure, unsatisfactory in results, and would cause an increasing and endless amount of trouble.

There is remaining to us for adoption the system which is practised in our cities and towns for the treatment of indigents, and for those persons suffering from contagious diseases, who, as the law provides, are taken to isolation wards of hospitals when they are likely to become dangerous to the health of the community.

I need not quote statistics, which are abundant on this point, but I need only indicate the positive advantages which the establishment of such hospitals at central points would have.

1st. They can be constructed at small cost. One at St. Catharines, of ample size, did not exceed in cost $750. Such would probably be cheaper in the north.

2nd. They would be open to patients from the whole district, who for a nominal weekly fee would be supplied with wholesome food, lodgings and medical attendance, while the work of a physician would be concentrated and his results satisfactory. To illustrate the latter I may point out that when in 1888, at the Penetanguishene Reformatory, 65 boys out of 200 became affected with diphtheria there was not one death, while in the three houses of the attendants, into which the disease was carried, there were two deaths.

3rd. First cases of infectious disease would be brought there. If a child, then its mother would come too, and be carefully attended, their houses being saved from becoming centres of the disease and sources of infection.

4th. The men from the shanties and river-drives would have a place to go to for treatment, and the charges could be made upon the companies who, like railway companies, would collect a per capita tax from the men.

5th. The stipendiary magistrates would by such means be enabled as health officers to enforce isolation more efficiently by sending the sick to these houses of recovery, and have good grounds for punishing persons who wilfully might expose others to infection.

6th. Thus persons would, from knowledge gained in these hospitals, learn something of the nature of disease, and how to prevent it.

7th. By a grant not exceeding that given to our smaller hospitals at present, as Mattawa, etc., small hospitals could be carried on, while the adoption of the principle would ensure, at least in the Dunchurch District of Parry Sound, that Dr. Wade, who has given satisfactory service, settle there as a practitioner, if the amount of $500 be granted for the maintenance of a small hospital.

8th. There is but little doubt that it will be possible to get young physicians to locate in other centres if similar provision be made for the establishment of hospitals in them.

9th. This amount expended would not exceed the amount paid to a single physician for two months' work if we include in it salary, all expenses, medicines, etc.

The provision for such grant exists under chapter 248, R.S.O. *re* Aid to Charitable Institutions.

As it is very desirable that early action be taken, in order to secure Dr. Wade's services for Dunchurch, as he will within a few weeks decide on his future field for practice, I shall feel greatly obliged if you will appoint an hour for discussing this matter with Mr. Christie, Inspector of Public Institutions, and myself, and shall be glad if he be invited to be present.

I have the honour to be,
Your obedient servant,

PETER H. BRYCE,
Secretary.

The report was adopted.

3. Anthrax.—The following correspondence shows the nature and persistency of this disease which has obtained a firm hold, as appears in the Guelph district. In close connection therewith, and owing to the fact, as illustrated in one of the letters, that hides were taken from the dead animals and sold secretly, the animals being buried without proper supervision, is printed a letter from a prominent Guelph physician drawing attention to the dangers which may most readily result from the use of impure wool in mattresses. Should such waste come from factories where wool infected with anthrax or other infectious disease had existed, or from the shoddy mills where infected cloth had been used, it is by no means an improbable case that should disinfection be neglected, most serious results would follow. Unless an expert were appointed under the Board or under the Factories Act to carefully enquire into these matters, we fail to see how the dangers from such sources are to be obviated.

GUELPH, 2nd June, 1888.

DR. P. H. BRYCE,
Toronto.

DEAR SIR,—The Guelph township Board of Health met again to-day. Four new cases of anthrax have occurred—all directly traceable, my father thinks, to animals buried last year or before. He wishes to ask, can anything be done to disinfect the ground? One of the losers is very anxious to try inoculation if proper virus can be obtained. Can this be done? Would your Board of Health for the Province do anything in the matter? Mr. Parsons and Mr. Dawson are again the losers. The animals have not been burned as far as I can learn.

Yours truly,

D. McCRAE.

(Transferred to this Department.)

GUELPH, 6th September, 1888.

HON. CHAS. DRURY,
Department of Agriculture, Toronto.

DEAR SIR,—You spoke to me about the imported Southdown ram. He died on the farm. My father remembers the circumstance.

Anthrax has been bad again. I heard last night about two cows belonging to people in town that died lately—believed to be from anthrax. They had been pasturing on the flats where it seems to be epidemic. When they died they were given to some one who dragged them away for their hides. I doubt if any present law will allow this to be prevented. If there is please let me know about it. I have looked over the Health Act, but to me it does not seem clear.

Yours truly,

D. McCRAE.

GUELPH, 10th September, 1888.

DR. P. H. BRYCE,
Toronto.

DEAR SIR,—Since writing you *re* removal of animals dying from anthrax, I have seen Capt. Clark. He informs me that he had the carcasses removed by lorry to the refuse ground and buried in the heaps of manure, being made, I presume, for sale. This did not commend itself to me as quite satisfactory, though Capt. Clark was quite sure it was all right.

I do not share your views as to the powers of the Board of Health in this matter. These last were in the city and, therefore, under the health officers here.

Yours truly,
D. McCRAE.

GUELPH, October 22nd, 1888.

DEAR SIR,—I send herewith a sample of the wool batting found in a mattress direct from the manufacturer's hand. I am informed that all the upholsterers use it in making up mattresses, excepting those of curled hair, which are very expensive. On inspection you will see that it is really a collection of the dirty odds and ends about the floor of a woollen factory (including the sweepings). It has a musty, offensive smell, and cannot but have a most pernicious effect on the health of the unfortunate people who have to sleep on such a bed. It taints even the air of the room, and I am not sure that it may not often enough be the hidden cause of some of the diphtheria that we meet with.

The existing laws require medical men to report every case of diphtheria, yet the manufacturer for his own gain is allowed to fill a mattress with refuse, and send it, with all its germs of filth, to be slept upon by unsuspecting people. This infernal greed for *filthy lucre* will stop at nothing unless exposed. Will you kindly look into the matter? Probably it will be found that all made up furniture is stuffed with something of no better origin or quality.

Could not the Provincial Board of Health bring such pressure on the Government as to have an inspector appointed wherever such manufactories exist? Let such inspector go armed with power to prevent all such abominable outrages upon the health of the unsuspecting public.

With kind regards, I am,
Very sincerely yours,

The following is the reply of the Sanitary Inspector, Guelph, to a request of Dr. Bryce to supply the latter with any facts regarding animals that died during the past summer:—

"With regard to the information you ask for, I do not know whether the animals died from the disease called anthrax or not, and I am unable to find out from the parties who owned these animals what was the cause of death. The information which I received was as follows:—

Case I.—Thomas Simpson, butcher, states that his beast was turned out on the flats in the morning, and at night when it came home he noticed that the animal would neither eat nor drink anything and he put it in the stable for the night, and the next morning it died. He had it skinned and sold the hide to Mr. Stull, a man who follows that business on the Guelph market. The carcass was taken to the nuisance ground and buried by the nuisance contractor.

Case II.—Mr. T. Ellis, butcher, states that his beast died on the flats. It was quite well in the morning when he put it there at 8 o'clock, and at 11 o'clock, a.m., it died. He skinned it and sold the hide and buried the carcass four feet deep in the ground.

Case III.—Mr. Gibson states that his cow was grazing on the same flats as the others and she was brought home in the morning, milked, and fed, and afterwards it was turned into another field close to the house. He did not notice anything the matter with it then, but it broke out of this field and got to the flats again, and he saw it go direct to the river and drink freely, after which it came back amongst the other cattle; this was about 12, noon, and at 2 p.m. it was found dead. It was skinned, hide sold, and carcass buried.

Case IV.—Mrs. Olson states that her cow died under similar circumstances as that of Mr. Gibson's, only that her's was brought home at night; but she noticed that the cow was sick and would not give any milk. The cow was kept in the stable and was attended by a veterinary surgeon, and was sick three days before she died. She was skinned, hide sold, and carcass buried.

Case V.—Mrs. Brisbane states that this year she lost two fat pigs, and last year she lost 12 pigs, 1 cow, and 1 horse, all on the same flats. The two that died this year were noticed to be rooting up the ground on the same spot where Mr. W. F. Stone buried one of his cattle last year which died from the same cause as the others. and these pigs died two days after they had been rooting up this spot. They were buried three feet under ground.

Case VI.—Mrs. McShane states that she lost one cow and that it was grazing on the same ground as the others. The cow was brought home at night and would not give any milk. She put her into the stable and the next morning she was found dead. It was skinned, hide sold, and carcass buried.

This is the number that have died this year, and this is about all the information that I can give you. There are a great many opinions about this matter; some are inclined to think that the river has something to do with it, while others hold different opinions, but a good many would like if you could come up and meet all those gentlemen who are interested in this matter, and those who own the ground where this disease is supposed to be, and talk the matter over and find out what is best to be done.

Regarding the means for stamping out anthrax in the Guelph district little more can be added to that printed in the report for 1887. If the pastures are to be used for grazing then inoculation would seem to be the sole prophylactic measure. Proper disinfection of animals dying in future may be insured, and it ought to be possible, in large measure, to protect animals against inoculation from grazing over the places where animals have been buried. The question of who is to deal with the matter seems as yet, however, not to be settled, and we await some avenue by which active steps in the matter may be taken.

II.—NOTIFICATION OF INFECTIOUS DISEASES.

It would be improper to leave the subject of outbreaks of disease without referring to notification of disease. Notification in its operation has three points for consideration, (*a*) notification by the physician and householder; (*b*) notification by local boards and their officers of Provincial Board, and (*c*) notification by the Provincial Board of contiguous Provincial and State Boards.

Regarding the first, fortunately the law in Ontario is very precise and exact in its terms, and supplies a ready means by which local authorities and their officers can become acquainted with the prevalence of dangerous disease in their midst. As we are well aware the growth of the principle in England and elsewhere has not been rapid, but the past few years have seen decided advances, until now there are fifty-six urban sanitary districts in which notification is compulsory, and we are able to obtain therefrom a complete monthly history of disease amongst some four and a half millions of people While the adoption of the principle has been voluntary there for these districts, the systematic way in which the law is carried out is, in some degree, at variance with experience in America, but especially to that in those cities of the Union where the law is enforced, and to some extent in urban municipalities in Ontario. Yet in these latter yearly advances have been made, and many towns can congratulate themselves on a notification which is tolerably complete. The chief defect here, as perhaps elsewhere, is that most of the Medical Health Officers are practitioners, and a sometimes reasonable objection is made that such an officer is legally in a position to injure a fellow practitioner. The obvions remedy here is that such officer have his whole time devoted to public health duties; but as this will be, in many places, little likely to take place for some years yet, the difficulty is readily, and indeed, in many cases even now, practically overcome by the officer assigning to the Sanitary Inspector the duty of enquiring into the sanitary conditions and the isolation of houses, and leaving the execution of details largely in the hands of this officer. Perhaps, however, the greatest and more reasonable excuse for non-notification in Ontario by physicians is the knowledge that defective measures exist for isolation, inspection and disinfection in those instances where notification is made. There must, in order that such notification be of value for statistical, or indeed for any purpose, be an organized sanitary corps so equipped that they practically relieve the attending physician of the work of isolation and disinfection. Such is done in England and in some other places, with the result that in those towns where notification is compulsory, most marked diminution in the mortality has already taken place. The primary advantage of the method is that it supplies a ready means whereby the poorer and improvident classes in the community may receive medical attendance and nursing by their removal to an isolation hospital, and further be prevented from becoming a menace to the public health by spreading the disease.

To illustrate the results of isolation, comparative statistics were given of individual places in our report for 1887, but the following from the returns for forty-five urban sanitary districts in England and Scotland for the month of February, 1889, is equally significant :—The annual mortality from all causes in these towns averaged 17.0 per 1000. This death-rate is 2.6 per 1000 below the mean rate last month in the twenty-eight large English towns dealt with by the Registrar-General in his weekly return, which was 19.6 per 1000. The death-rate from the eight infectious diseases dealt with averaged 0.7 per 1000, and showed a decline from the rates of the previous three months. These figures are most instructive, and present a marked contrast with many American cities of a very much less average population. There is one other marked defect, apart from imperfect notification, which Local Boards in America must remedy before great improvement in results can be expected, which is in the period of time a patient who has had the disease must remain isolated before mingling with persons susceptible to the disease from which he has suffered. With regard to several diseases, notably smallpox, there is but little difficulty, but in the instance of mild scarlatina, measles, and mild forms of diphtheria, physicians, but especially patients, are greatly inclined to allow the sick to mingle with the well as soon as the more acute symptoms of the disease have passed off. There is no more constant cause of dispute between Local Boards and those in charge of the patient than this, and no one cause of appeal to your Secretary *re* the powers of a Local Board more common than it. The evil is far-reaching and has most serious effects upon the prevalence of disease. Through it the work of disinfection, too often of a perfunctory character, is carried out before the stage of infectiveness of the skin and mucous membranes of a patient have passed. This done the person is allowed to be present in all other parts of the house as well as the sick room, and mingle with other members and see callers ; and further, in many instances, goes to school, church and public places, and so carries the infection to others who are susceptible. It is at once readily conceded that it is often inconvenient, and in some instances a hardship, especially where the sick is a wage earner, for persons to be isolated for the time necessary for the safety of others ; and oftener still harder for other members of a family to be under surveillance or quarantine on their account. But in all such cases, not only is the public safety the only question which can be considered, but it also may be said that when the alternative of having the patient removed at once to an isolation hospital is offered, not only is such isolation reasonable, but it ought to be rigorously maintained, since thereby it will be one of the first means by which the public will be taught that it is for the individual benefit, the family safety and economy and the public good that such patients be removed at the earliest moment to some house of recovery. Says Dr. George Buchanan, Medical Officer Local Government Board of Great Britain, in his last general memorandum, (April, 1888), "On the Proceedings which are advisable in places attacked or threatened by Epidemic Disease."

"11. All reasonable care should be taken not to allow infectious disease to spread by the unnecessary association of such with healthy persons. This care is requisite not only with regard to the sick-house, but likewise with regard to schools and other establishments wherein members of many different households are accustomed to meet.

"12. If disease begins in houses where the sick person cannot be properly accommodated and tended, medical advice should be taken as to the propriety of removing him to an infirmary or hospital. *Every sanitary authority should have in readiness a hospital for the reception of such cases.*"

"17. Provision by the public authority for disinfection by heat of bulky articles, and of those which cannot without injury be exposed to chemical agencies, ought always to be in readiness. Without such no complete disinfection can be effected. Partial and nominal disinfection, besides being wasteful, may be mischievous as giving rise to a false security."

So important is the isolation hospital becoming in the eyes of English sanitary authorities, in view of its effectiveness in preventing epidemics, that Dr. Buchanan has, in his report for 1888, further issued a memorandum in which diagrams and plans are set forth. In view of the frequent references which have been made by your Committee on Epidemics during the past year to this matter, I have taken advantage of Dr. Buchanan's memorandum to abstract a few remarks from it, and to give diagrams of plans of hospitals constructed for the special purpose of isolation.

Says Dr. Buchanan, "English communities nowadays recognize the advantage of isolation hospitals as a means of preventing the spread of infectious diseases from persons who cannot be properly isolated in their own homes. It cannot be too clearly understood that an isolation hospital, to fulfil its proper purpose of sanitary defence, ought to be in readines beforehand. . . . Thus hospitals provided during an epidemic are mainly of advantage to particular patients; they have little effect in staying the further spread of infection."

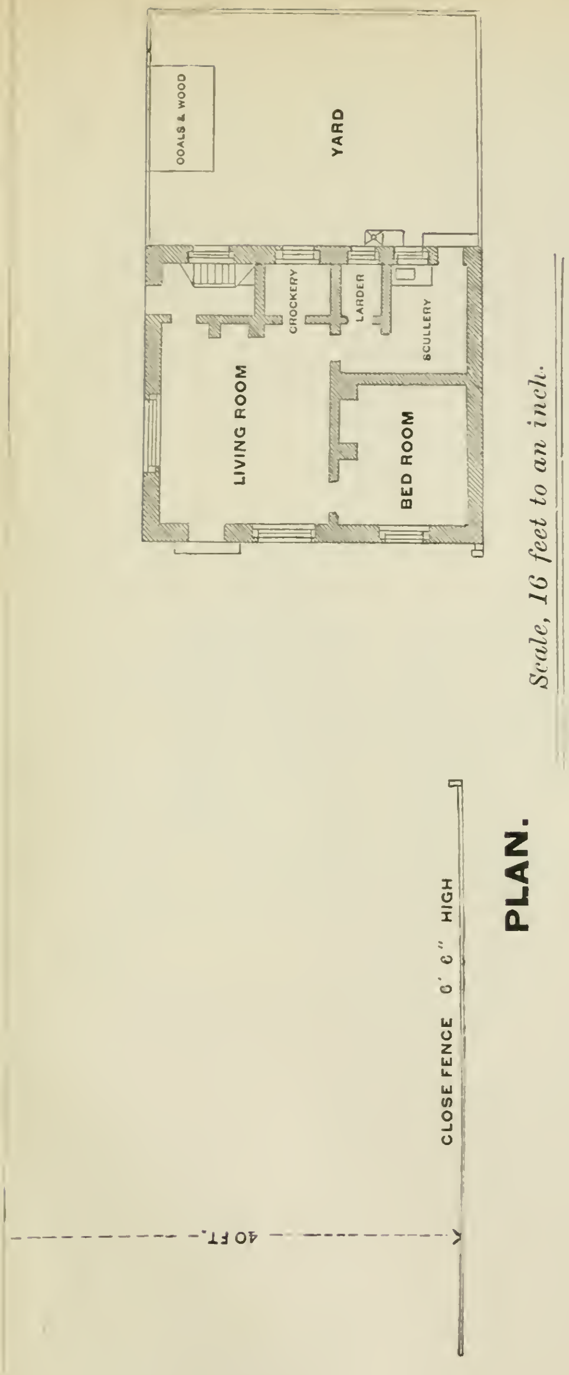
This memorandum also suggests to sanitary authorities of rural districts and of small towns the means by which they may most advantageously make such provision. "The permanent provision to be made in a town should consist of not less than four rooms in two separate pairs; each pair to receive the sufferers from an infectious disease, men and women of course separately. See page 200.

"Plans illustrating the sanitary requirements of small hospitals for infectious disease, are arranged on three sheets accompanying the present memorandum. Plan A, on the first sheet, is that of a little building to hold two patients of each sex. On the second sheet a plan and a section (B) of a rather larger hospital building are shown, providing for six patients, with separation of sex, and also of one infectious disease from another. The third sheet shows (plan C) a small pavilion adapted to receive six male and six female patients suffering under one kind of infectious disease. On the same sheet is placed a plan (D) of a ward block for ten patients, of similar design to plan B, and a convenient disposition of buildings upon site is also indicated. It will be found that in all the plans proper standards of space are observed, viz., not less than 2,000 cubic feet of air space, than 144 square feet of floor space, and twelve linear feet of wall space to each bed; that means are provided for the adequate ventilation and warming of wards, and for securing them from closet emanations and the like. In plan A, earth closets, in other plans, water closets, are indicated as the means of excrement disposal. The latter are to be regarded as preferable where efficient sewers are available. Places for washing and disinfection, and for a mortuary are indicated. It will be observed that an interval of forty feet is everywhere interposed between every building used for the reception of infected persons or things and the boundary of the hospital site. This boundary should have a close fence of sufficient height, and the forty feet of interval should not afterwards be encroached on by any temporary building or other extension of the hospital. In the construction and arrangement of such temporary buildings as may at times be wanted in extension of the permanent hospital, the same principles should be held in view.

In determining the locality where an infectious hospital should be placed, the wholesomeness of the site, the character of the approaches, together with the facilities for water supply and for slop and refuse removal, are matters of primary importance."

Herewith I also give a diagram of a hospital constructed within the present year in the town of St. Thomas, in view of the threatened appearance there of smallpox.

PLAN A.

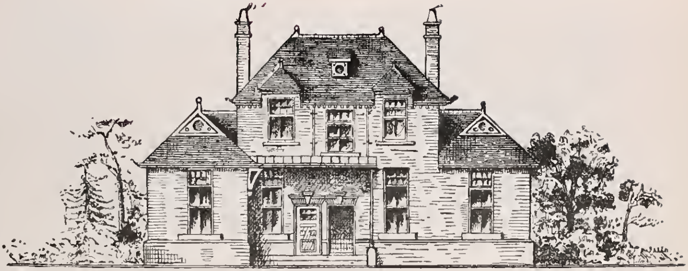


PLAN.

Scale, 16 feet to an inch.

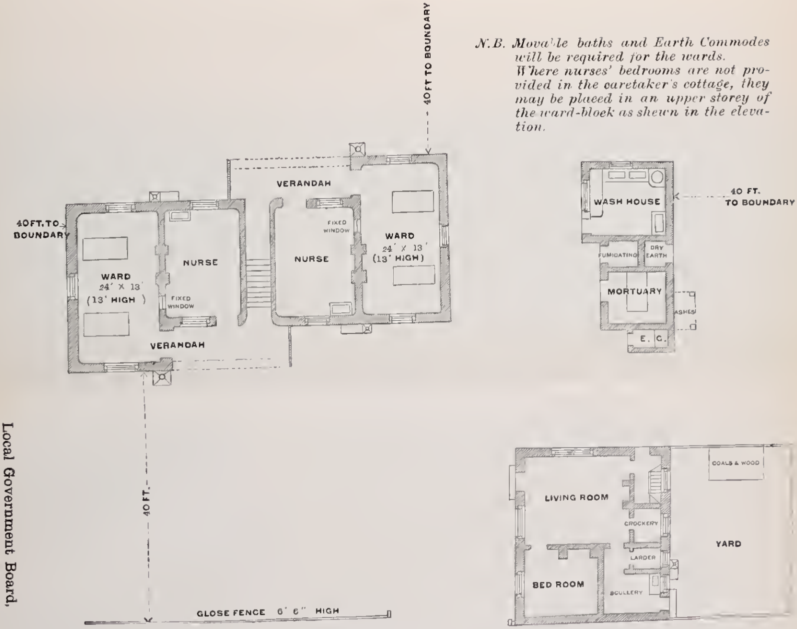
Local Government Board,
Whitehall, S.W.
February, 1888.

PLAN A.



ELEVATION.

*N.B. Movable baths and Earth Commodes will be required for the wards.
Where nurses' bedrooms are not provided in the caretaker's cottage, they may be placed in an upper storey of the ward-block as shewn in the elevation.*

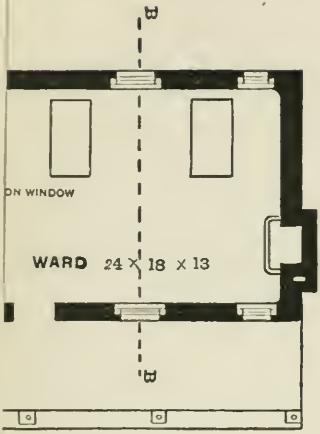


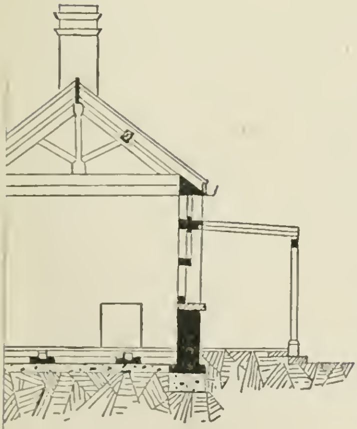
PLAN.

Scale, 16 feet to an inch.

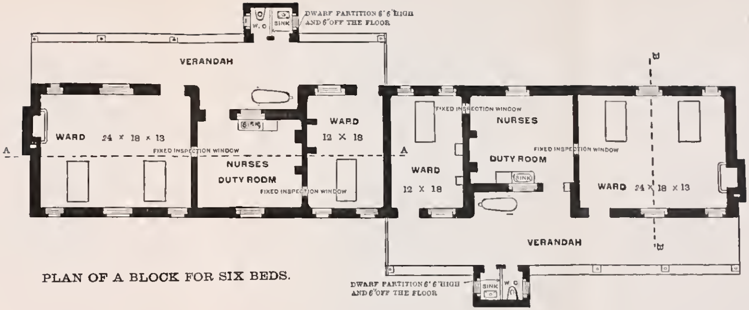
Local Government Board,
Whitehall, S.W.
February, 1888.

PLAN B.

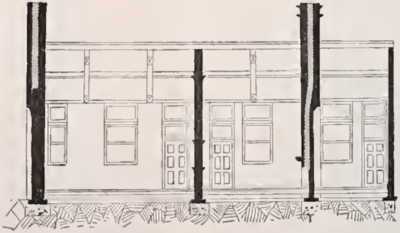




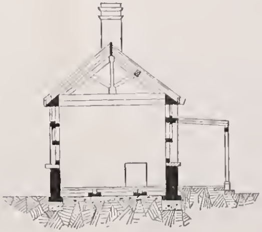
ECTION ON LINE B. B.



PLAN OF A BLOCK FOR SIX BEDS.



SECTION ON LINE A. A.



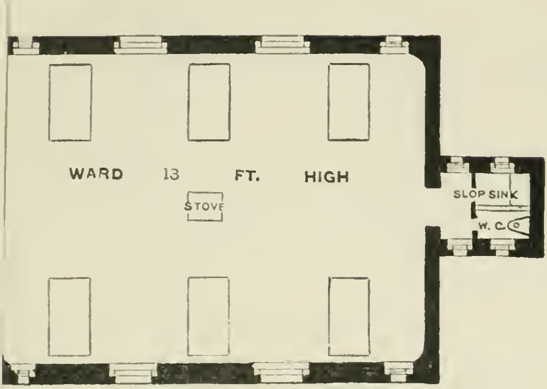
SECTION ON LINE B. B.

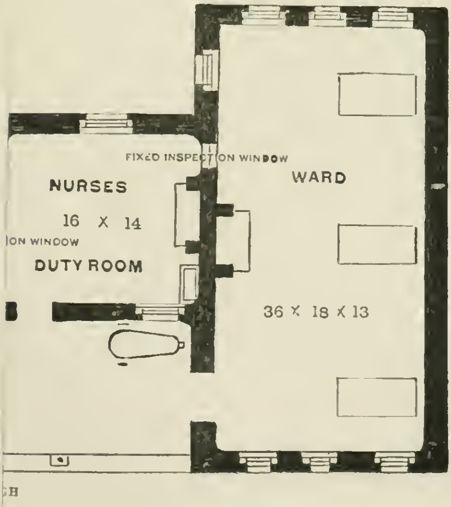
Local Government Board
Whitehall, S.W.
February, 1888.

Scale, 16 feet to an inch.

PLAN C.

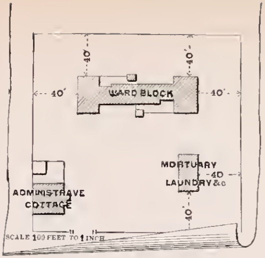
N FOR 12 BEDS.



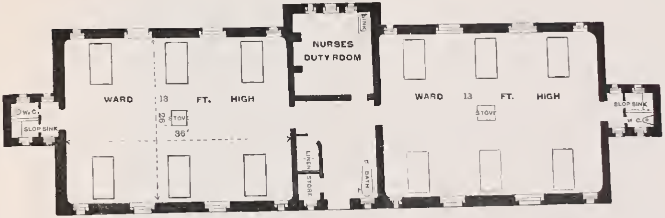


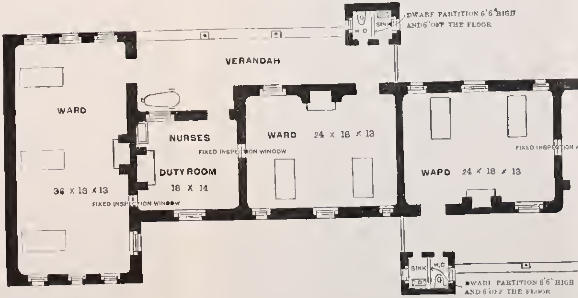
PLAN D.

PLAN C.



PLAN OF A WARD PAVILION FOR 12 BEDS.





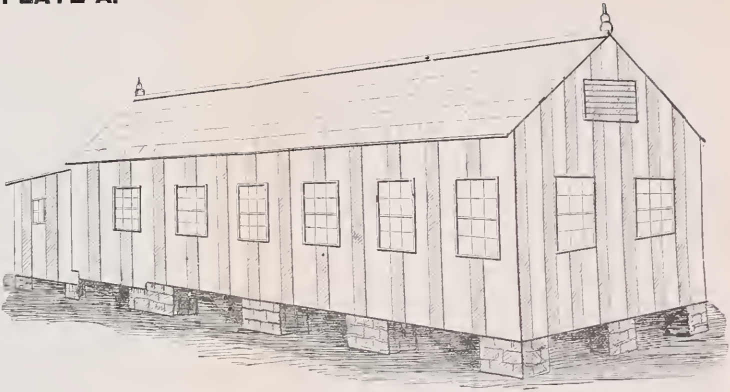
PLAN OF A BLOCK FOR TEN BEDS.

Scale, 16 feet to an inch.

Local Government Board
Whitehall, S.W.
February, 1888.

PLAN D.

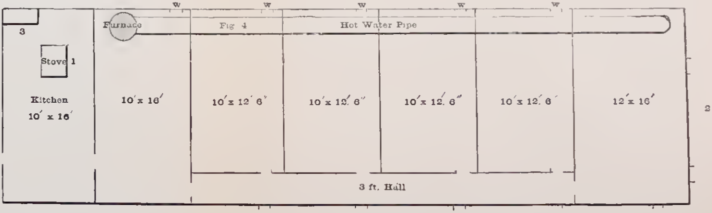
PLATE A.



ISOLATION HOSPITAL.

ERECTED BY ST THOMAS LOCAL BOARD, MARCH, 1889.

PLATE B.



CROSS SECTION OF GROUND FLOOR OF ISOLATION HOSPITAL.

Size of building 16x73 feet; height of ceiling 11 feet; ventilator in gable ends, and regular ventilators in every room in ceiling; kitchen painted, and other rooms and hall twice oiled—all close-sheeted inside and hand smoothed. Fig. 1 is cooking stove. Fig. 2 is a Baker furnace—combination of hot water and steam. Fig. 3 is a cupboard. Fig. 4 is the heating pipe, alongside of wall the length of building. The cost of building, including stove and heater, would be $905.

Regarding the purposes of such hospitals it may not be improper to refer to their rise, in times past, as fever hospitals, and that with years their use has extended to other forms of infectious disease. So important has become their use that through them largely the fever, typhus, for which they were primarily constructed, has almost disappeared from England. It has not been unnatural that since then their use has been given largely to typhoid, a disease, however, which under ordinary conditions in Ontario can, as far as the public are concerned, be treated readily in private houses. There are, however, instances, as when strangers and others are stricken with disease in houses where the sanitary conditions or the surroundings are bad, in which such are of the greatest value, not alone to the sick, but to the public. We have not infrequently found that neglect on the part of the physician to give directions, or oftener on the part of the nurse to perform, to disinfect the room, the bed and body linen, and the passages from the bowels have become the direct source of infection to other members of the house. Suffice it to say that this scheduled disease being directly under the supervision of the Medical Health Officer, there can be no reason why such authorities should not frequently avail themselves of the presence of an isolation hospital.

Not a few of our larger towns and cities have been moving in the direction of having hospitals built, which, if not specially designed for infectious diseases, are at least constructed with one or more wards so cut off as to make them of service in the treatment of infectious diseases.

Of these we may mention the following:

GUELPH, May 21st.

DEAR DOCTOR.—In the General Hospital there are two wards for the reception of contagious diseases. They are completely isolated from the rest of the building. There is also a small building some distance away which is used for the same purpose—or in cases of smallpox. At St. Joseph's Hospital they have a small building for contagious disease not connected with the main building. As a rule patients suffering from diphtheria, when proper rooms are not to be had at their homes, are sent to the hospitals. In cases of diphtheria they usually remain for about three weeks after recovery.

Yours sincerely,

THOS. H. KEATING,
Medical Health Officer.

OFFICE OF THE MEDICAL HEALTH OFFICER,
LONDON, ONT., May 17th, 1889.

DEAR DOCTOR,—I am in receipt of yours of 9th inst. 1st. There are no cottages for the reception of contagious diseases in connection with our city hospital. They are admitted reluctantly into one of the wards.

2nd. No rules of management exist between the local board of health and the hospital trustees with regard to admissions or the number of days from the onset of disease until dismissed from hospital; that is left to the discretion of attending physicians. I hope our hospital trustees will before long see the necessity of building isolated cottages or wards for the reception of infectious diseases, and not subject the inmates of the hospital to needless danger.

Yours truly,

T. V. HUTCHINSON.

P. H. BRYCE, M.A., M.D.,
Toronto.

CITY HOSPITAL,
HAMILTON, May 17th, 1889.

DEAR DOCTOR,—Our scarlet fever cases remain at least six weeks; measles, two, and diphtheria from three to twelve. They are in a building by themselves.

Smallpox is in a separate building, a mile from the infectious building of the city hospital.

Diphtheria patients are taken to the general ward after four weeks if they can safely be moved.

The nurses on duty in the infectious building have no duties elsewhere.

Yours very truly,

F. BEEMER

DR. RYALL,
City Health Officer.

MEDICAL HEALTH OFFICE,
LOCAL BOARD OF HEALTH,
HAMILTON, ONT., 13th May, 1889.

DEAR DOCTOR,—I enclose communication from the resident physician of our city hospital. Of course, you knew that the smallpox hospital is distinct and far away from the general hospital.

With regard to the time which should elapse after contagious diseases before patients should be allowed to mingle with the public you should settle that period for general aodption, and expert testimony would be most reliable to act on.

Scarlatina, of course, is not free from contagion until desquamation of the cuticle is complete—is there a particular time for that process to be accomplished? Many of the cases of so-called scarlatina have had no desquamation, and some of them no sore throat.

Croup gives a loop-hole for the non-reporting of diphtheria—when you find death from croup followed by a case of diphtheria in the same house, it looks exceedingly suspicious. Inflammatory croup is generally supposed to be a non-specific affection—but errors in diagnosis are not impossible. The chairman of the Board of Health desires me to inform you that the Board had a person up before the magistrate for breach of the health by-law, but that the magistrate did not support the health officer. The case was for the emptying of a privy vault not being done according to orders of the Board. The magistrate on former occasions has fined parties as high as $10 for the same act.

Yours, etc.,

J. RYALL,
M. H. O.

DR. BRYCE,
Toronto.

MEDICAL HEALTH OFFICE,
LOCAL BOARD OF HEALTH,
HAMILTON, ONT., 13th May, 1889.

DEAR DOCTOR,—There is only one ward for contagious diseases in our hospital grounds. I have never been inside of it—all cases sent to the hospital are no longer under the control of the Board of Health. The resident medical officer discharges such patients when he thinks fit to do so: this has been the rule carried out as far as I know. I will inquire further from the resident surgeon, Dr. Beemer.

Yours. etc.,

J. RYALL.

I could not very well, from my own experience, give any stated time with regard to how long isolation should be maintained in the diseases mentioned. I think that some authorities go as far as seven weeks. The disease may subside in a very short time and the patient convalesce. During the latter period is there not danger? Some patients get rapidly well, others do not.

J. R.

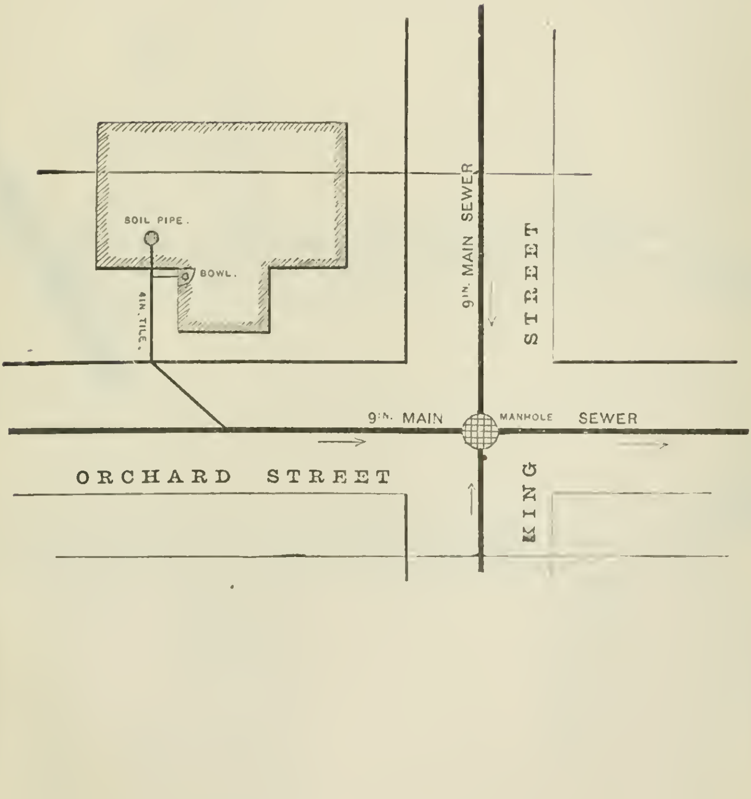
HEALTH OFFICE, CITY HALL,
OTTAWA, May 10th, 1889.

P. H. BRYCE, M.D.

DEAR DOCTOR,—In answer to your note of 9th inst, I beg to say that there are in this city two hospitals specially maintained for the reception and care of contagious diseases. One is annexed to the Protestant General Hospital, the other to the Roman Catholic General Hospital. They each receive from the Corporation the sum of eight hundred dollars annually, as a grant. They are under my special supervision, and with very few exceptions I attend to all cases there isolated. No case is discharged unless

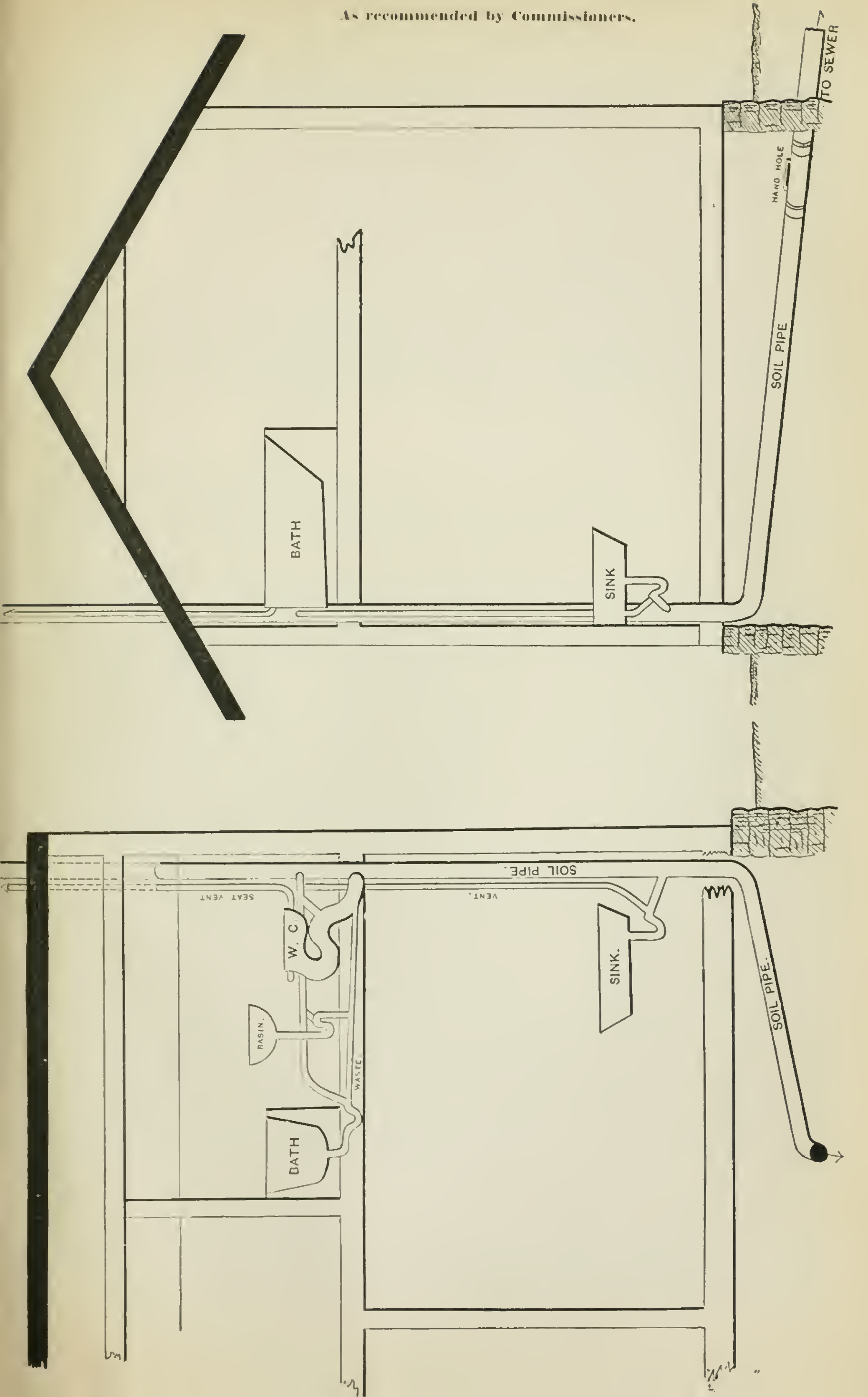
PLAN SUBMITTED ON APPLICATION

Under Form IV.



PLAN OF BROCKVILLE PLUMBING

As recommended by Commissioners.



with the consent and approval of the medical attendant. From the onset of the disease isolation would be enforced from three to six weeks, differing as you are aware, in different contagious diseases and also in different degrees of severity of the same diseases in different cases, the average duration of isolation being about twenty-five days.

Yours truly,

A. ROBILLARD,
M. H. O.

ST. THOMAS, ONT., May 10th, 1889.

DEAR DOCTOR,—Yours of the 9th instant received this morning. Regarding the information required I can only say we have no hospital in the city, with the exception of the one erected for the smallpox patients, and it has not been used up to the present time.

All patients with contagious diseases have been treated at their own homes. No provisions have been made by the board for their removal to any other place. We have had very little sickness during the present year from contagious diseases. I am sorry I cannot give you any other information.

Yours faithfully

J. B. TWEEDALE.

At Brockville, where a fine new city hospital has been completed, a specially isolated ward has been arranged for. It is approched from an outside entrance, and special endeavour made to secure complete isolation. The local board have no special arrangements for sending persons from houses when they cannot be isloated; but they can be sent with consent of the trustees in the usual way of admittance. Close relations between the two may soon be expected to be established.

As most of these hospitals belong to the municipality there ought to be little difficulty in the Local Boards arranging with the hospital trustees so that those cases which the Medical Health Officer deems necessary should be received and treated. One difficulty has, however, been found in some of these instances where patients in stages of recovery have been discharged or allowed to leave the hospital before their infectiousness has ceased. It is due to the same difficulty already referred to, viz., the lack of any thing like a recognized specified time at which the contagion has ceased to be present, either on the skin or in the respiratory passages. It will be a matter for the Board to consider whether some regulation on this subject should not be passed and brought before the notice of the Local Boards. Its need is manifest, and we doubt not but that physicians generally would be glad of some regulation which would save them from the disagreeable necessity of having to apparently exercise the harsh duty of causing cases to be isolated when the acute symptoms have largely allowed the patient to dispense with their services.

The matter of notifying the Provincial Board of outbreaks of contagious disease is but part of the plan outlined in the Public Health Act, by which all executive officers can lend their aid in stopping the spread of these diseases. Manifestly while the Local Health officers may prove equal to the task of isolating disease within its own municipality there are frequently instances where persons have passed beyond their jurisdiction, who having been exposed may endanger the health of other communities. For such reasons it is most desirable that the Provincial Board should have early notice of outbreaks of disease of whatever kind, that they may where necessary lend aid to poor municipalities or make suggestions tending to more effective action in others.

But the compulsory necessity for the Provincial Board being kept informed of outbreaks lies in the duties laid upon it, under sec. 9 Public Health Act, of investigating outbreaks and of enquiring into the measures taken by Local Boards for suppressing such. That such notification was necessary under the Act was plain, but inasmuch as exact expression on the subject was wanting, the attached regulation was passed by Order in Council based upon the following resolution of the Board.

August 17th, 1888.

"Moved by Dr. J. A. Macdonald, seconded by Dr. H. P. Yeomans and carried, That while the principle of notification by physicians and householders to Local Boards of cases of infectious diseases is fully recognised in the Public Health Act by statutory enactments; yet, inasmuch as the question has been raised by several Local Boards, as to the interpretation of section 9 Public Health Act, cap. 205 R. S. O., 1887, by which the Provincial Board is to be informed of outbreaks of zymotic diseases such as cholera, smallpox, diphtheria and scarlatina, the Board in order that it may comply with the agreement entered into by the International Conference of State and Provincial Boards regarding interstate notification of infectious diseases and further in order that it may carry out the duties laid upon it by said section 9, would request the Minister of the Department to bring the following recommendation adopted by the Provincial Board of Health before the Lieutenant-Governor for his sanction :

That every Local Board and its Medical Health officer shall be required to at once notify the Provincial Board of Health of all and any cases of cholera and smallpox, and of such outbreaks of diphtheria and scarlet fever as occur within the limits of the jurisdiction of said Local Board."

COPY OF AN ORDER IN COUNCIL APPROVED BY HIS HONOR THE LIEUTENANT-GOVERNOR, THE 29TH DAY OF SEPTEMBER A. D., 1888.

Upon consideration of the resolution of the Provincial Board of Health passed on the 17th day of August last and upon the recommendation of the Honorable the Treasurer the Committee of Council advise that the following regulation be approved of by your Honor :

"That every Local Board and its Medical Health officer shall at once notify the Provincial Board of Health of all and any cases of cholera and smallpox and such other outbreaks of diphtheria and scarlet fever as occur within the limits of the jurisdiction of said Local Board."

Certified,

(Signed) E. F. B. JOHNSTON,
Clerk Executive Council,
Ontario.

That such notification becomes necessary in the interests of the municipality is often made frequently apparent. Within the last few weeks a telegram was received from the Secretary of the Provincial Board of Quebec enquiring whether small-pox existed in Winchester township, Dundas county, as it was reported that a girl had come to Montreal from a house where smallpox had recently been. Knowing of no smallpox there since April 1888, I was surprised at the report, but telegraphed for information ; answer was at once returned to the effect that the disease had existed in one family, but that all had recovered and that the disease had been confined to the first house. The facts were at once telegraphed to Montreal with the request that the suspect be quarantined if they thought proper.

The possession of this information has besides a wider bearing inasmuch as it enables the Provincial Board to maintain a close relationship with neighboring State and Provincial Boards. The utility of such is seen in the incident just related as also in the two illustrations which follow :

[INTER-STATE NOTIFICATION ISSUED IN COMPLIANCE WITH RESOLUTIONS ADOPTED BY THE CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH AT TORONTO, OCTOBER 6TH, 1886.]

BOSTON, May 22nd, 1889.

To Dr. P. H. Bryce, Toronto, Canada :

SIR,—In compliance with the resolutions printed on the back of this notification it becomes my duty to inform you that a case of smallpox exists at Janeston in this State, in the person of a Belgian woman, immigrant. She arrived at New York, May 8th, on the steamer Nesterland from Antwerp. Took the disease from another case on board.

Respectfully, your obedient servant.

SAML. W. ABBOTT,
Secretary.

INTER-STATE NOTIFICATION OF DANGEROUS COMMUNICABLE DISEASES.

MICHIGAN STATE BOARD OF HEALTH
(Office of the Secretary),
LANSING, Michigan, May 28th, 1889.

To the Secretary of State Board of Health :

DEAR SIR,—In compliance with the resolutions adopted by the National Conference of State and Provincial Boards of Health at Toronto, 1886, and Washington, 1887, it becomes my duty to inform you that two cases of smallpox exist in Michigan, one at Detroit and one at Battle Creek. The person sick at

Detroit is Don Lewis, a resident, origin of disease unknown. The Battle Creek case is in a Polish family recently come from Detroit or Canada.

The measures taken to restrict are the removal of the Detroit case to the city hospital; and the immediate isolation of the family in which the Battle Creek case occurred. The danger of the disease spreading is not great.

Very respectfully,

HENRY B. BAKER,
Secretary.

This notification further gives the opportunity to correct erroneous impressions which may exist, regarding the health of the Province, in places with which we have commercial relations.

Thus the following correction of the Michigan notification was necessary.

[A SIGNATORY TO THE RESOLUTIONS ADOPTED BY THE INTERNATIONAL CONFERENCE OF BOARDS OF HEALTH AT TORONTO, OCTOBER 6TH, 1886.]

TORONTO, May 29th, 1889.

To the Secretary of State Board of Health:

DEAR SIR,—In compliance with the resolutions printed herewith, it becomes my duty to inform you that the last case of smallpox existed at Fingal (Southwold township), in the county of Elgin, Province of Ontario, in the person of Wilson Burrell, resident.

The origin of the disease was from exposure to previous case. This statement is made to correct the impression which might be created by the Michigan notification of May 28th, that a case of smallpox in Battle Creek, in the person of a Pole, had recently come from Detroit or Canada. No Poles live near the Fingal District.

You are authorized and requested by this Board to take such further measures for the protection of your territory, in conformity with the terms of the resolutions, as in your judgment may be deemed necessary.

I have the honor to be,
Your obedient servant,

P. H. BRYCE,
Secretary.

The constant commercial and social intercourse between adjacent Provinces and States through our railways makes the necessity for this work daily more apparent, as the methods of dissemination of these diseases become more evident and the means necessary to counteract the dangers better known.

III. ABATEMENT OF NUISANCES.

Perhaps it might be said that the less frequent complaints regarding the prevalence of typhoid and the existence of local nuisances, are due rather to a growing indifference to their existence than to any lessened frequency in their occurrence. There can be little doubt, however, but that this class of disease and of those nuisances which often are its close attendant, are becoming less common as physicians are becoming more advanced in prophylactic hygiene and antiseptic treatment of disease, while Local Boards are better acquainted, both with their powers under the Health Act and of the methods by which such nuisances can be lessened.

During the past dry and warm summer it was to be expected that nuisances, due to the lowering of the water in mill-dams and creeks running through towns, would be abundant. Such did exist to some extent, and amongst cases reported were

1. The Parkhill case, in which a creek was dammed up for mill purposes, and stagnant pools caused thereby were complained against. The Local Board took reasonable action under the circumstances.

2. The Wingham case is herewith printed in full, as illustrating some of the difficulties which Local Boards have in dealing with nuisances.

Town Clerk's Office,
Wingham, Ont., August 30th, 1888.

Dear Sir,—I beg leave to again write you in reference to the mill pond nuisance in the river Maitland, forming the boundary line between the township of Turnbury and the town of Wingham. Full particulars of this matter you will find in my letters to you dated April 15th and 29th, 1887.

We found by amended Municipal Act, 1888, the county council was liable for all fallen timber and driftwood in streams forming the boundary between municipalities. We accordingly notified the county council of the county of Huron to remove the timber and driftwood in this mill-pond. A committee of the council came up and examined the place, but they claim that they are only liable for the debris in the main stream or original river bed, and not for the rubbish carried beyond that on account of the mill-dam across the stream raising the water and forming a pond.

To clear away the timber and driftwood in the main stream or original bed will not improve the condition of the nuisance any, as there is scarcely any timber in the main stream, nearly all of it being on either side of it.

The mill was destroyed by fire a few weeks ago, and is not likely to be rebuilt; the water has been let off and consequently the whole jam with all its accumulation of rotten wood and filth is in a better position than ever to spread disease among those living near it. At the C. P. R. station yesterday, with the wind blowing off the pond, the smell was almost unbearable. The county council will not agree to remove the nuisance, and we fear they are not liable. The owners of the mill privilege, on which most of it is situated, will not agree to do so; in fact since the destruction of their mill the property is not worth the expense. According to the Health Act the Local Board cannot undertake an expenditure so large as the clearing out of this pond would necessarily be. The municipal council of Wingham will not do anything in the matter, for the reason, no doubt, that only a section of the town is directly affected by the nuisance, and consequently the greater number of the electors would object to the expenditure.

Can you let us know who are the responsible parties, and how to proceed in the matter; if you will do so you will greatly oblige us.

I may say, this year, so far, we have no notice of any disease occurring directly from this pond, but last year there were three cases of typhoid fever near the place, and the pond is in a worse condition now than ever it was.

Yours very truly,

J. B. FERGUSON,
Sec. Board of Health,
Wingham.

3. The Thorndale case of another character shows how neighborly convenience is disregarded. The owner of a cheese factory pours his waste whey and refuse generally into the creek, from which the cattle in the farm below go to drink. The water becomes so polluted as to be refused by the cattle of the lower farm. An impotent Local Board refused to aid the injured to have his complaint rectified, which might readily be done under Section 4 of Schedule A of Health Act.

4. In the following letter from Glencoe is set forth a condition of affairs fortunately not common to many parts of the country, and yet by no means very rare.

Glencoe, February 27th, 1888.

Dr. P. H. Bryce,
Toronto.

Sir,—I have read with much pleasure and profit Dr. Griffin's paper on water pollution, as published in the *Globe*, February 16. The water supply in this western peninsula is very indifferent, many having no regard to the laws of health in these counties. In dry times milk cows and other stock are forced to drink out of holes scraped out in the pasture lot. It is common to see cows giving milk standing up to their bellies in mud and their droppings, drinking that filthy stuff. I was appointed at our cheese factory to examine and test the milk as to purity. I said if they would allow us to examine the water I would cheerfully act. The reply was, "If you do away with ponds we will not send milk to the factory."

The township Boards of Health are generally the members of the council, many of them grave offenders. I know an ex-reeve who has a hole scraped in his barnyard. All the water from the roofs and surroundings soak through the dung and straw into the pond, and the milk cows and stock forced to drink out of that nasty hole, his stock coming out mere bones in the spring.

If you could get an act passed to stop such a system as I describe, and compel councils to appoint an officer specially to carry out the provisions of the law, it would, I believe, save many from sickness and, possibly, early death. Your Board has a great work before it. The extensive drainage of this western country has reduced the water supply, and we will have to get our supply from a considerable depth.

I would suggest that all scraped holes that have no outlets running clear be fenced, and, if possible, covered from the sun.

I remain yours,

THOMAS BECKTON.

The Acts printed in last year's report on the subject of milk supplied to factories will with the Health Act have to be the means, along with education, whereby these nuisances may be remedied.

5. The London sewerage difficulty, referred to in reports for the past three years, had not at last reports been overcome. In February of last year this Board was communicated with regarding a new proposition for obviating the nuisance, which was in substance that of pouring into the main sewer near its outlet, some "properly prepared chemical solution" to be mixed in a tank along the sewage by "agitators," this thereafter to be poured into the river, having been neutralized. These proposals of the Board were based upon some experiments by Prof. Bowman. It is hardly necessary to say that, apart from the fact that the results of the detailed experiments vary greatly from those of other experimenters, experience elsewhere has shown that this method would not do away with the nuisance complained of in any satisfactory manner.

6. The pollution of the Bay of Quinte just above Belleville by the sewage of the Deaf and Dumb Institute, is another matter which has been repeatedly brought before the Board by the Local Board of Belleville. The matter has been brought before the department which has that institution under its control, but no solution of the matter has yet been attempted. As the pollution of the bay takes place at a point half a mile west of the point of intake of the Belleville water supply, there can be no question as to the duty of the Government under the circumstances. The question of an injunction being served by the city upon the Superintendent of the Institute ought to be fairly considered by the authorities, since there is no reason why so simple a matter as the safe disposal of the sewage of 200 or 300 persons should not at once be carried out.

7. The Aylmer case still stands, and will, we suppose, until coming warm weather raises the question again. A dam at the upper end of the stream running through the town has been erected, with the result that malarial troubles are more or less common. The low stream in the village is insufficient to carry downward polluting matter, while suspicions have been raised against the character of the town water. Action proposed by the Local Board last year was not carried into effect.

8. Open ditches have been, in a number of instances in smaller towns, a source of serious complaint. One such complaint was preferred by parties in Tilbury Centre, in Kent County, that the Local Board refused to take action after complaint had been made. The matter was so clearly one with which the local authorities could deal that no inspection was made by this Board.

9. A complaint similar to that from Tilbury Centre was received from Morrisburg. The complaint states "the town of Morrisburg has water-works, the cart before the horse, and no sewerage," and the question is asked, "Will not the earth become

saturated with the refuse water and sewage, and cannot we, as a Health Board, compel the corporation to dig a drain or drains along the streets and let the water out of cellars of private residents. The council maintained that they were not bound to dig sewers along their streets or even to let householders drain into them." Manifestly the difficulty is one belonging to an early stage of civic evolution, and will be solved only through a general growth of knowledge and appreciation of the simple and easy method of dealing with house sewage.

10. From Tottenham a complaint of the same nature as that at Tilbury Centre was made, and a line of action suggested to that Board. The great difficulty is to get action taken.

Associated with the class of nuisances of which the above is a sample, are those relating to privies and disposition of night soil. Of these, complaints came from Grand Valley *re* disposal of night soil; another from Maxville, Glengarry, a privy nuisance due to a large hotel; and another from Omemee from the presence, on adjacent premises, of an old and decaying log stable with water and a large amount of animal matter, to the presence of which, it was claimed, several cases of fever and one death were due.

All these difficulties might readily be avoided by adopting the simple and economical plan of dry earth closets, carried out in the village of Leamington; and until Local Boards have made their general adoption compulsory, we need not expect to be free from complaints of the several kinds indicated in this last paragraph.

Associated with the same are those cases of typhoid fever reported, where evidently the *materies morbi* has been in well water. Of this class an unfortunate example occurred at the small village of Cooksville.

In early autumn the well at one house became perfectly dry, and water from the well on a neighboring premises was used, this well being situated just outside the back kitchen door. It pumped empty with very slight use. On this premises, some fifty yards away, was a slaughter-house, the effluvia from which contaminated the surrounding air in the evenings and during the night. Cases of typhoid occurred in house No. 1; thereafter in the house on premises where slaughter-house was; thereafter in the hotel near by, and in the houses of several other persons who had sat with the sick. While it is quite probable that some may have contracted the disease while nursing the sick, it is almost certain that the major part drank water from the suspicious well. A biological examination of the water showed it to be extremely impure from the numbers of bacteria contained in it; and that fatal cases occurred in those houses where the emanations from the slaughter-house contaminated the night air, is wholly in keeping with a number of other instances where cases of disease in the vicinity of such air pollution have been of an extremely virulent and fatal character.

10. From Peterboro' an outbreak was reported by Dr. Caldwell, occurring in a village a few miles away. The doctor reported ten cases in four families of his own practice, and rumoured cases in others; and the Local Board were extremely anxious that the water should be tested in wells which were suspected. It is extremely unfortunate that this Board possesses no facilities for making such investigations, thereby strengthening the hands of Local Boards in their endeavors to do efficient work.

11. Another case occurred at Port Dover, which illustrates the difficulty Local Boards at times have in carrying on their work. A nuisance was caused by a man, part owner of a well on the line between two lots. He had thrown out a heap of rubbish from a cellar-way, and caused thereby surface water to flow into the well, as tests showed, causing its pollution. He refused to comply with the Board's order for removal of earth until after a summons—the time for removal having been previously enlarged. Two days before the trial he caused the removal of the earth, but left the polluted well untouched. The case, brought before two magistrates, was dismissed with costs. Similar cases elsewhere might be given illustrating the action of justices who, to say the least, certainly have not aided in making the work of our Local Boards more easy or satisfactory. In this case the matter was referred to the Attorney-General's department for advice, but owing to the time the Local Board had allowed to elapse, appeal from the magistrates' decision was impossible.

The following letter from a Medical Health Officer illustrates first, the existence in country places of typhoid, which in almost every outbreak might be traced to wells, and further, the desire of Local Boards, even in rural localities, have to do the duties placed on them.

——, September 10th, 1888.

Dear Doctor,—Kindly let me know how you would go about making an inspection as to the cause of typhoid fever cases in different parts of our township. We have a number of cases, some in one part and some in another, and a committee has been appointed to find out the cause. Kindly let me know your method of procedure, and also your tests for water without sending it to a regular analyst.

Yours truly,

——,
Medical Health Officer.

IV.—INSPECTION AND REGULATION OF PUBLIC MILK SUPPLIES.

No department of sanitary work has, during the past year, shown more positive signs of progress than this one, of the first importance to every-day health. If we were to sum up the three dangers to life, which are constantly liable to be present, we would say, (*a*) unwholesome food, and food which is the bearer of the microbes of specific disease ; (*b*) unwholesome air, and air which is the carrier of disease germs from sewers, foul cellars, workshops, schoolrooms, etc. ; (*c*) impure clothing and utensils of whatever kind, which have been exposed to infection by personal wearing and handling, or exposure to contaminated atmospheres. But of all these we think milk the one most liable to be injurious. The sole food of infants, it is likewise depended upon as a nourishing diet for the sick and invalids, and yet being an animal food its liability to injurious influences begins with the health of the cow, the nature of the food and the manner of giving it, the cleanliness of the cow and of utensils from the moment of milking till it is consumed. For several years up to last year this Board of Health has, as will appear by perusal of past reports, urged the necessity for inspection of the sources and modes of handling milk supplies upon the attention of Local Boards, and toward the end of 1887 issued the following circular:

Office of the Provincial Board of Health,
Toronto, November 28th, 1887.

To the Chairman and Members of Local Boards of Health :

Gentlemen,—As you are doubtless aware clause 5 of the Public Health Act of 1887 provides that : "The Medical Health Officer under the direction of the Local Board of Health shall have authority to make or cause to be made by a veterinary surgeon, or such other competent person as the circumstances may require, a periodic inspection of all dairies, cheese-factories and creameries, dairy farms and slaughter-houses, which come within his or their jurisdiction ;" and clause 6 of the same Act further places upon this Board the duty of enquiring into the various measures which are adopted by Local Boards throughout the Province in the interests of the public health.

In view therefore of the importance of the provisions contained in clause 5 of the Act already quoted, and of section 10 of Schedule A of the Act of 1884, and owing to information received from time to time to the effect that no systematic inspection of public milk supplies exists in many municipalities in the Province, the Provincial Board recognizing the, now well-ascertained, dangers of the transmission of typhoid fever, diphtheria and other infectious diseases by means of impure milk, has instructed its committee on Foods and Adulterations to prepare for distribution to Local Boards certain recommendations, which it is hoped will form a basis for such regulations as the Local Boards of the several municipalities will deem proper to adopt. The fact that there are many rural municipalities, where there is no so-called public milk supply, will not, it is hoped, prevent their Local Boards from insisting, in the public interest, that the precautions which are deemed necessary for larger places, be carried out by those farmers residing in their districts who may be shippers of milk to cheese-factories, creameries or to the large centres. In order that such inspections may be effective and systematic we have arranged in order the following Regulations :—

Reg. 1.—All dairymen and vendors of milk shall, at least once a year, register with the Medical Health Officer, or Secretary of the Local Board, where no such Medical Officer exists, of the municipality (in a register supplied by the Board for such purpose), (1) their names and addresses, (2) the source or sources of their milk supplies, (3) the number of cows in their possession, (4) the average quantity of milk disposed of either (*a*) to milk-shops, (*b*) milk vendors, (*c*) or to private consumers.

Reg. 2.—That at such registration, a statement be made by all keepers of cows for public supplies as to the kinds of foods supplied to their cows ; if (*a*) of brewers' grains, (*b*) distillery slops, (*c*) starch factory by-products, (*d*) ensilage or (*e*) oil-cake ; the amounts in proportion to the total food supplied.

Reg. 3.—That periodic inspections be carried out under direction of the Board by its Medical Health Officer or Sanitary Inspector, in accordance with the spirit and provisions of section 5, Health Act, 1887, and section 10, Schedule A, Health Act, 1884.

Reg. 4.—That the dairyman or milk-vendor agrees, as a condition of receiving license, to comply with the various clauses of the Health Acts, by giving notice to the Local Board of any cases of contagious animal diseases (defined in said clause of Public Health, 1887), occurring amongst his cattle, or of any scheduled contagious diseases in his family, or in the farm, house or shop at which, from which, or in which the milk is either sent or received, and that he further shall carry out the restrictions laid upon him by the Local Board under any Public Health Act.

Reg. 5.—The milk-vendor agrees to provide milk of a standard quality, the test values of each grade of milk to be as follows :—

Grades.	Solids.	Fat.
No. 1 Quality	14.00 per cent.	4.75 per cent.
No. 2 "	13.00 "	4.00 "
No. 3 " (Government minimum average)	12.00 "	3.50 "

Reg. 6.—That the Local Board through its Medical Health Officer shall grant a yearly license to each dairyman, milk-vendor and milk-shop, after compliance of said person with the provisions of said regulations ; provided that at any time such license may be recalled on sufficient proof being had by said Board or its Officer of violation of the terms of the Regulations, or of any clause of the Public Health Acts.

The following form for Register is suggested :

FOR REGISTRY BOOK.

Name.	Address.	Locality or Source of Supply.	No. of Cows.	Quantity of Milk Supplied.		Food Supply.	I hereby agree to report at once any infectious diseases that may occur in my family, or in my house or shop, and whatever disease may occur amongst my cattle to the Medical Health Officer of this municipality.
				To Dairies	To private people.		
							Date,
							Signature,

The following is similarly suggested for form of License :

Mr. of (Dairyman, Milk-vendor or Shop-keeper,) having agreed to conform with the terms of the Regulations printed herewith (on reverse side) is hereby authorized to engage in the business of dairyman, milk vendor or shop-keeper for the period, included between and , always providing that should any violation of any provision of the Health Acts or Regulations be proven, as of the agreement to supply milk of a standard quality, neglect to keep premises in first-class condition as regards cleanliness, water used, etc., as required by said Local Board or its Officer, or as regards infectious diseases, said license may at any time be cancelled.

Issued this day of

....
(Signed for Local Board.)

It is hoped that the suggested Regulations may be instituted everywhere throughout the Province at the beginning of 1888 ; in order that this, of all sources of food the most important, may be supplied of the best possible quality, to the mutual advantage both of seller and consumer.

We have the honour to be,
Your obedient servants,

FRANCIS RAE, M.D., Chairman,
C. W. COVERNTON, M.D.,
P. H. BRYCE, M.A., M.B., Secretary,
Members of the Committee on Epidemics.

Perusal of the Reports of the Local Boards found in Appendices will indicate fairly well the general attention which has been paid to milk inspection ; while further replies from the following places have been made to a card asking for specific regulations on the subject.

CITIES.

Toronto.—According to the Annual Report for 1888 it is stated : "That the Medical Health Officer drew up a Report (dated March 15th, 1888,) setting forth the necessity of having the dairies, creameries, etc., thoroughly inspected, but owing to the large amount of important business before the Board the matter was left over for future consideration."

Ottawa.—Without any special by-law on the subject having been passed other than that contained in Schedule A, section 10, which is sufficient for the purpose, the Board issued a license after the form proposed in the circular. Inspection of dairies is made by the Sanitary Inspector or Medical Health Officer of the Board. Results have been very satisfactory as regards improvement in quality of milk supplies, etc

Hamilton.—A special by-law was there passed and the work undertaken in a systematic manner. In order that the Board might be placed in the strongest possible position in any action which it might find necessary to take, it sent its Medical Health Officer on a tour of inspection of methods of testing milk supplies to New York, Boston, etc., and having returned he arranged for the work of regular inspection. Particulars will be found in the Annual Report of the Board printed herewith.

London.—No special by-law other than Schedule A, sec. 10, has been passed, with a resolution of the Board requiring the issue of a special license. The Annual Report shows that under the supervision of the Medical Health Officer most thorough and efficient inspection and testing have been carried on, resulting in a notable improvement of the quality of the milk supplies.

Brantford.—Amongst those who undertook the work most promptly was the Brantford Local Board, and proceeding under Schedule A, sec. 10, issued a license given upon condition, signed as an undertaking by the receiver thereof, that he would comply with regulations similar to those contained in the form suggested in circular. The work has been most satisfactory as regards improvement of standard. Inspection of dairies is made periodically, and testing of sample every two months, and the results are published in the city press. As a sample the following report is given which may prove of use to other Boards:

HEALTH OFFICE,
BRANTFORD, September 15th, 1888.

Milk tests made in September, shewing specific gravity of the various samples and also the percentage of butter fat as estimated by the lactoscope. Published by order of the Board of Health.

E. GRIFFIN, M.D.,
Medical Health Officer.

SAMPLES TAKEN FROM THE DELIVERY WAGGONS OF THE MILK VENDORS.

No. of Sample.	Specific Gravity at 60 Centigrade.	Butter Fat Percentage.	NAME OF VENDOR.	No. of Cows in Dairy.
1	1032	3·13	W. Dickie	28
2	1031	3·25	R. Greenwood	9
3	1030	3·25	Foulds Bros	30
4	1031	3·25	J. Alexander	11
5	1032	2·88	J. Crewe	21
6	1029	3·25	J. Burton	11
7	1031	3·13	G. Craddock	18
8	1031	3·	R. Portus	39
9	1030	2·75	J. Brittain	30
10	1031	3·	Brooke & Son	36
11	1033	3·13	S. K. Passmore	20
12	1029	3·75	W. D. Snider	18
13	1032	3·63	W. Reed	3
14	1032	3·13	J. A. Willis	9
15	1031	2·63	James Lee	12
16	1033	3·	D. Duncan	11
17	1031	3·25	Richard Burke	11
18	1033	2·75	F. Wilkes	2
19	1030	3·75	Mrs. Knowles	2
20	1031	3·50	J. Jackson	4
22	1030	3·25	W. Read	10
23	1031	3·	G. Walter	18
24	1032	3·25	P. Maloney	5
Average		3·17	No. of Cows	358
Highest		3·75		
Lowest		2·63		

SAMPLES OF WHOLE MILK FROM TOWNSHIP HERDS, NOT CONNECTED WITH THE CITY MILK SUPPLY.

Sample.	Sp. Gr.	Butter Fat.	NAME.	Cows.	Remarks.
A	1032	3·75	G. Hill	30	Common grade cows; only feed poor pasture.
B	1031	4·00	F. Reed	27	Grade cows; half their feed is green corn cut, the other half exceedingly poor pasture.
C	1032	3·75	C. Summerhays.	4	Grade cows; only feed pasture, not very good.
D	1032	4.50	D. Luck	4	Good cows; fed on pasture, with a little chopped grain.
Average		3·90		65	
Highest		4·50			
Lowest		3·75			

The minimum standard recommended by the Provincial Board of Health is 3·50 per cent.
The minimum standard in the State of Massachusetts is 3·70 per cent.

From the above it will be seen that—

3·75 was the highest percentage of butter fat in the 23 milk vendors' samples.
2·63 the lowest percentage, and
3·17 the average
4·50 was the highest in the whole milk samples.
3·75 the lowest, and
3·90 the average.

Only 4 of the milk vendors' samples, representing 27 cows, were up to the minimum of the Ontario Board of Health.

The remaining 19 samples, representing 323 cows, were below the minimum of 3·50 of the Provincial Board of Health.

The low percentage of 3·17, average of all the milk vendors' samples, is doubtless due in part to bad pasturage this season; but there does not appear to be any good reason for these samples shewing only 3·17, while the whole milk samples of non-vendors, having common and and rather poorly fed cows, shows an average of 3·90.

If milk at 3·17, the average of the above 23 samples, is worth 5 cents per quart, then the highest sample, 3·75, is worth 6 cents, and the lowest, 2·63, 4 cents; and 1st quality rich milk like sample D above, with a percentage of 4·50, is worth over 7 cents per quart.

N.B.—We intend hereafter to publish account of condition of dairies, of cattle, quality of food, etc., etc.

Guelph.—No new by-law, but regulations after the form suggested in circular and a license were issued by the Local Board and periodical inspections of dairies were made. To illustrate the need, it may be mentioned that the Sanitary Inspector discovered that several cows of dairymen had suffered from anthrax, and that owing to the acute character of the disease it is not improbable that for a day or two before its onset these animals had been supplying milk altered in quality to the public.

Kingston.—Owing to persistent doubts on the part of the city solicitor as to the powers of the Local Board under Schedule A, the Local Board, after several attempts, have very recently succeeded in getting a by-law passed under the provisions of the Municipal Act regarding the inspection of foods. The length of the by-law ought to insure perfect inspection and, we trust, that the Board will be able to perform good work under its provisions.

St. Catharines.—Has made no provision for the regulation of dairies apart from the ordinary inspection which may be carried on under Schedule A of the Act.

Belleville.—Here the work was very efficiently carried out last year without special by-law, but now a special by-law has been passed and provision made for a license fee of $1. A registration of all vendors is provided for in a book kept for the purpose. The forms for license and registrations, as also the regulations, are similar in form to those of the circular.

St. Thomas.—No regulations are in force there, but we trust to soon learn that regulation and inspection of dairies is being regularly carried out.

TOWNS.

Brockville.—Has a printed form of license similar in its provisions to that of Brantford, with an undertaking signed by the dairymen to carry out the regulations.

Walkerton.—Has a license and agreement similar to that contained in circular issued by the Board.

Orangeville.—Similarly has the two forms of license and agreement with the regulations as suggested in the circular.

Prescott.—The Local Board, by special resolution, have instructed the Sanitary Inspector to inspect and report to Board on all the dairies. No regulations have been adopted or licenses issued.

Trenton.—Issues a license in which the vendor agrees to supply milk up to the standard of circular, to keep premises in good condition, and report all contagious disease. A license fee of $3 is collected and a veterinary surgeon employed to inspect cattle, and a register of all vendors is kept.

Chatham.—Has a by-law passed under sect. 489 sub-sec. 53 of Municipal Act, by which Medical Health Officer and Sanitary Inspector are appointed Milk Inspectors, and are empowered to inspect as under clauses *re* food adulteration; also a penalty for obstructing inspectors; for having stamped measures, and penalty for not having same; 14 per cent. solids and 3 per cent. butter-fat are the minimum standard of quality.

Simcoe.—Carries on the work of inspection and regulation under the amended by-law, Schedule A, of the Act.

Windsor—Has carried on the work of inspection of dairies under the provisions of Schedule A, but has now under consideration a special by-law on the whole subject.

Owen Sound.—Has adopted the form of regulations and license set forth in circular making, however, 3 per cent. the minimum standard for butter fat.

Perth.—Has an inspection carried on under the amended Health By-law for the town, but no special regulation as licensing of dairies.

Kincardine.—Has a by-law under preparation looking to the close inspection of all milk supplies, whether for direct consumption or for use in creameries or cheese factories, and of cow-byres and dairies.

The following places have reported that no regulations or licensing of dairies are in force: Galt, Collingwood, Peterborough, Cobourg, Listowel, Mount Forest, Berlin, Ingersoll, Wingham, Woodstock, Stirling, Whitby, L'Orignal, Exeter, Thorold, Madoc, Meaford, Shelburne, Milton, Deseronto, Petrolia, Springfield, Aylmer, Tara, Port Stanley, Caledonia, Brussels, Bowmanville, Vienna.

We thus learn from the preceding reports the general condition of the milk supplies of the Province. Of the eleven cities seven are in a position to do effective work, and reports found in the annual returns show that good progress has been made. Of the towns some eight have taken steps to enforce systematic inspection of dairies, while a number of other places institute a general inspection of byres.

When it is remembered that the great proportion of our towns and villages have a population under 4,000, and many of them not more than 1,500, that as stated in answers to the circular some of these have no dairies within the corporation and that many persons keep cows of their own, it is manifest that though the necessity may exist on private premises for sanitary inspection in the matter of cleanliness, yet the extent of ground around each house, the limited number of animals on each, and the fact that the use of the milk is in most cases limited to one or two families make the necessity for inspection in these municipalities very much less than where the milk supply is by general distribution from several large dairies.

Some difficulty has been experienced by Medical Health Officers with reference to standards, which may be enforced, as also the means whereby the quality of the milk may be tested or established. Experience has, however, indicated the practical value of the lactometer and lactoscope, since those circumstances which affect its exactness do not exist practically under the ordinary conditions. We trust that other places may take advantage of the experience of those which, have during the past year regulated the sale of milk, and that a year hence will find a still closer watch kept over this source of food supply and national health.

SEWERAGE SYSTEMS.

In the report of the Secretary for last year remarks were made at some length upon the matter of "water supplies or their sanitary relations." Therein were discussed the conditions of soil, as regards ground water and organic pollution, which most notably affect the public health and the necessity for not only surface purity of the soil but of its aeration and drainage were set forth. Bearing directly, however, on the question of pure water supplies, is that of sewage disposal, since in the past it has been the rule, and is likewise too much the same at present, that rivers and lakes which are made the receptacles for the sewage of towns and cities are likewise the source from which supposedly pure public water supplies are obtained. That it should be possible for such unfailing sources of supply to be made safe from the sanitary standpoint does not admit of question, and yearly the matter is becoming a more urgent one to Ontario, where public water works are being increasingly introduced, thereby making the construction of sewerage works a corresponding necessity.

During the past year several towns have introduced public water supplies. Thus Goderich, Cornwall, Brockville, Brantford, Berlin, Cobourg, Wiarton, etc., have new public water, while nearly all of those cities where it has been already introduced have had to increase the capacity of their works. The question assumes further an additional importance owing to the fact that the demand for water increases *pari passu* with an increased pollution of those sources from which it is obtained.

The soil around a polluted well becomes yearly more polluted, while the demand on the well ordinarily is increased; while the streams with a less yearly quantity of water flowing into them owing to the drying up of the springs at their sources with the clearing away of the forests, are receiving from the growing populations on their banks a still larger amount of pollution.

But the two questions of pure water and proper disposal of sewage cannot by any casuistry be evaded; they have existed, and must exist, in every country where aggregations of people in settled communities exist. They are not absent even where numbers, as armies, are in movement. In Canada, there are as yet only a few places where positive necessity has forced cities and towns to act; but fifty years and more have with widening knowledge made many communities aware that their civic advancement—not to mention their public health—demands in the interest of commerce that they are possessed of these two modern conveniences, the gauge of a town's prosperity. Where does the capitalist look for a profitable investment? Not in a malarial town, without public drainage, not in a town where the public water if present is known to be bad, not in the place where there is no public supply for mill-wheels and steam power; but in those places where faith in the town's future has caused its councillors at the voice of the people to issue debentures as a business investment, for constructing works of these two kinds. The Southern States, only now arousing with new hope from the disastrous results of the recent war, recognize as the first condition of attracting capital that their towns must be supplied with water which is good, and sewerage works which are modern in their character and sufficiently extensive to relieve the soil from those organic pollutions which make yellow fever a scourge. In 1878 Memphis was decimated and her sad experience was the occasion of originating a system of separate sewerage, her absolute safety for the past ten years. Last year Jacksonville was similarly scourged, and we see her to-day having one of the most experienced engineers engaged in plans for perfecting her sewerage. Other cities living in dread, are only awaiting their ability to similarly protect themselves from this dreaded disease. England learnt a similar lesson, only after scourging from cholera and typhus; and North American cities have learnt the lesson in part—only after typhoid epidemics have ravaged them and diphtheria has borne away its victims. But the lesson is only partially learned; large cities, like Philadelphia and Cincinnati, are still using polluted river water and having deaths from typhoid running up to many hundreds annually.

Hospitals are erected and collections and endowments devoted to the support of fever wards in these cities, whereas if the Schuylkill and the Ohio had their *periods of purification* before mingling with the people, thousands would yearly have cause to bless the intelligent managers of public affairs, while the donations from public charities would have other avenues wherein to do their holy work.

Speaking for Ontario, it may fairly be said that those public works begun during the past few years have indicated an intelligent appreciation of the fact that both public water and public sewerage may become a curse as well as a public blessing. In no single case wherein by sec. 30, R. S. O. 1887, it has become the duty of a municipality to place their plans for approval before the Provincial Board of Health, has there been shown a desire to introduce works which were not likely to prove a benefit to the public interested. There have been practical financial considerations which may at times have prevented a municipality from doing all it would have wished, but water from pure sources has been sought, and sewage has been disposed of only temporarily in such manner as might be likely to prove detrimental to the public interest. Amongst the problems which have come up for solution is the disposal of Toronto sewage. The conclusions of the most recent expert examination are referred to on a later page of this report.

At Cornwall the question of disposal became an easy one, since the water had only to be carried into the current of the St. Lawrence rapids to be disposed of, we may fairly assume, with safety. Similarly at Brockville the sewage is forced far out into the St. Lawrence and lost sight of. At Owen Sound complaint is still made that the sewage is not carried for enough, but it may fairly be expected that, with the rapid development of that town, the sewage will be carried farther till it be forced into the lake waters. At London the pollution of the river still continues; but a fraction of the evil at this place is likely soon to be remedied by the sewage from the insane asylum being disposed of by means of a sewage farm.

These illustrations suffice to show that such work as is being done is being done along advanced lines. I am not aware of any place where sewerage works have been recently introduced in Ontario where the separate system has not been adopted Three years ago Mr. Alan Macdougall, C. E., devised such a scheme for Stratford, while within the last two years Cornwall and Brockville have built separate systems under the guidance of Mr. Willis Chipman, C. E.; while Col. Waring has similarly disposed of the sewage of the London Asylum. What, however, our various towns and cities which have not yet constructed sewerage works want to know, is how their work may be done and at what cost.

Two years ago when Mr. Macdougall outlined a system of separate sewerage for Stratford, his estimate was based upon the prevailing figures of cost in American cities; but not until the Brockville system has been constructed has it been possible for me to obtain figures of actual cost of a system of separate sewerage in Ontario. I propose, therefore, to utilize for the benefit of interested municipalities figures from reports supplied by the town of Brockville.

Before referring to the questions of cost it may not be improper to state in a few words what work is included under the term "Separate System." In last year's Report Dr. Oldright, the Board's delegate to the "American Public Health Association," had an opportunity of inspecting the Memphis system of separate sewerage. In it he refers to "the small-gauged sewers of the system, excluding all storm and rain-water." Perhaps it would not be improper to call them *sewage* sewers in contradistinction to drains for storm and surface water. Such systems now exist in many other places, as at Pullman, Ill., Binghamton, N.Y., Norristown, N.J., Schenectady, N.Y. Says Prof. Staley and Mr. Pierson, C.E., regarding it, "The introduction of the separate system marks an important era in the development of sanitary drainage, recognising as no other system has, the prime importance of an early removal of household and industrial wastes, which are the main factors in soil pollution. That it will best meet the requirements of all large and dense populated cities (economy considered) is not probable. That under competent advice, it can meet the requirements of *house drainage* more perfectly in *any* *city* than the combined system, cannot be denied. It is peculiarly adapted to many of the numerous smaller cities, which have been practically debarred from sewerage by its cost, and to outlying portions of larger ones. Its comparatively small cost permits an early and general extension, and the removal of domestic wastes before the soil has become saturated with them beyond a reasonable hope of purification."

These writers further show that seven-eighths of all the cities in the United States have a population less than 25,000, and about two-thirds less than 10,000 inhabitants.

From the statements here quoted it is manifest that for Ontario we have in the "separate system" one almost universally applicable.

With regard to the general characters of the system I cannot do better than quote the words of the Brockville report as given by the Engineer, Mr. Chipman :

"1. The system of sewers adopted in the town of Brockville is the Modified Separate System, and is designed to carry off (1) liquid house wastes, (2) excreta, (3) a limited amount of roof water, (4) sub-soil water, (5) cellar water.

"2. The main sewers and laterals consist of vitrified, salt-glazed sewer-pipe, called *sewers*, designed to carry the liquid house wastes, excreta and roof water.

"3. Alongside the *sewers* are laid agricultural drain tiles, designed to carry the sub-soil water and cellar water.

"4. This system is not designed to carry street water, garbage, ashes, vegetable parings or rubbish."

When the system is completed the sewage from the whole town except the small portion west of Shepherd Creek and south of the G. T. Railway will be conveyed to one outfall at the lower end of the town and discharged through a submerged iron pipe into the river.

The sizes and grades of sewers adopted are such that sewage entering a sewer from any of the buildings farthest removed from the outlet along the line of sewers will be discharged at the outfall in less than 90 minutes.

At the head of each sewer is placed an automatic flush tank, arranged to discharge 200 gallons of water as often as may be desired. This volume of water being discharged through a large opening under considerable head, completely fills the 9 inch pipe for several hundred feet at minimum grades, and insures a thorough flush where most required, at the point where the average regular flow is the least. The flush tanks now in operation are working perfectly, keeping the sewers clean at all times with a comparatively small quantity of water. * * * *

Construction.—"With the exception of the sewers on Water street and on Thomas and Ann streets, all sewers have been laid in the centre of the street, and in all cases each sewer has been laid with a uniform grade and in a straight line between manholes or between a manhole and a lamphole or flush tank.

By this method of construction any section of a sewer can be readily inspected and easily cleaned if necessary. The loss of velocity by adopting successive chords instead of a curve is small, and the advantages are so great that in only one place has a curved pipe been used in the street sewers; the junctions of mains and laterals being made inside the manholes.

Junctions were put in for every house and opposite each vacant lot at such points as the owner directed. In the absence of the owner the engineer or inspector placed them as he thought best." * * * *

Materials.—"Scotch sewer pipe was used on Water street, east of tunnel, and on Thomas and Ann streets. On all other streets Standard sewer pipes, manufactured at St. John's, Quebec, have been used.

Considerable difficulty was experienced in getting proper sized drain tile in such quantities as we required at different times during the season, a difficulty that will probably not occur again.

Portland cement and Brockville bricks have been used throughout.

The cement used was tested by subjecting briquettes of one square inch cross section to tensile strain after 24 hours immersion in water after setting. This test, although not favorable to slow setting cements, is probably the best of any for cements for jointing sewer pipes. What is there wanted is a quick-setting cement, especially in wet trenches."

Records and Plans.—"Records have been kept of the work done showing the grade and depth of every sewer, the location of all manholes, flush tanks, lampholes, etc., the positions of all gas mains, water mains, drains, and the service pipes for gas and water met with in the trenches. Also the position and extent of all rock excavated.

The profiles and plans upon which tenders were called have been converted into *final* plans by plotting therein all Y junctions, gas and water pipes, drains, rock excavation, etc., but it would be better if proper final plans were prepared, the sheets to be uniform in size and bound into volumes after completion. In a few years the present profile plans will be worn out from frequent reference."

We have thus given an outline of the nature of the work done in Brockville during the past year, or being at present carried on. As it is the first town in Canada in which the cost of the "separate system" has been established by actual experiment, I shall quote the table of cost as given in the report.

EXPENDITURE FROM NOVEMBER 1, 1887, TO DECEMBER 31, 1888.

SEWER.	Labor.	Materials.	Sundries.	Engineering.	Inspecting.	Total.	Per centages unpaid.	Total cost of Sewers or of part completed.	Length of Sewers completed in feet.	Cubic yards of rock.	Contractors for Labor.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.			
General	....	110 26	158 90	71 00	....	340 16	....	340 16			
Main outfall	4,430 40	2,448 12	47 37	145 00	78 00	7,148 89	....	7,148 89	923	4	J. F. Ward.
Water Street E. Tunnel	3,455 51	1,340 50	320 49	200 30	225 00	5,541 80	742 33	6,284 13	1,620	487	Wood & Logan, Harry Welch.
Thomas and Ann	2,359 88	589 44	47 80	145 75	128 00	3,270 87	62 20	3,333 07	1,254	521	Wood & Logan, Wm. Donovan.
*Water and Jane, Sec. 2	1,666 18	1,203 80	39 14	44 00	75 50	3,028 62	524 88	3,553 50	1,272	70	Harry Welch.
Broad	150 75	165 16	2 65	12 50	18 00	349 06	....	349 06	367½	5	McGuire & Jackson.
Market	1,161 93	485 24	30 61	78 50	51 00	1,807 28	128 17	1,935 45	1,302	1½	Armour & Cunningham.
Orchard	1,131 75	463 92	19 96	70 00	43 00	1,728 63	125 75	1,854 38	1,175½	5	S. A. Wiltsie.
Ormond and Pine	949 91	356 94	12 34	71 00	60 00	1,450 19	105 54	1,555 73	879	53	M. Bradly.
Bethune and branches	2,079 71	1,241 50	33 93	167 75	167 75	3,690 67	520 03	4,210 70	3,277	25	T. J. P. Doddridge.
†King, West	883 48	263 12	11 48	84 50	100 00	1,342 58	280 22	1,622 80	731½	139	J. D. Swartwout.
†King, East	1,291 00	217 70	7 78	71 25	64 50	1,655 23	274 68	1,929 91	600	207½	Armour & Cunningham.
Plumbing	....	....	60 45	60 00	65 00	185 45	....	185 45			
Total	19,560 53	8,885 70	792 90	1,224 55	1,075 75	31,539 43	2,763 80	34,303 23			

* Completed in January, 1889, at an additional cost of about $350.

† Not yet completed.

From this table we learn that "the average cost per lineal foot of the 9-inch sewers built as local improvements on Market, Orchard, Bethune and branches and Ormond and Pine streets, has been about $1.55. The average cost of the main sewer east of the tunnel about $3.88 per foot, and the cost of the part west of the tunnel about $2.80 per lineal foot." Part of this was more expensive than was estimated owing to there being more rock than was anticipated.

I have compared these tables of cost with those of the cost of works of a similar character given by Staley and Pierson in their work. The total cost in Schenectady was .72 per lineal, while that given as the cost of a section for Keene, N. H., is given at $1.29⅓ per lineal foot. It is remarked, however, that those low costs could probably not be repeated owing to the prices of labor, material, etc., and that from 10c. to 20c. on these estimates should be added.

The cost of the Brockville system when the uneven character of the soil, the very considerable amount of rock excavation, the new character of the work, and the difficulty in getting the proper materials just as required, are considered, cannot be thought of as other than moderate, and it may fairly be assumed that in the great majority of towns in Ontario the price of the work would be very considerably reduced.

From the estimates given it is manifest that the question of financial ability on the part of any of our growing towns to provide sewerage for the benefit of its citizens is solved in the affirmative, and with plumbing now reduced to a system greatly simplified in its details and cost, we may fairly affirm that with public systems of water supply, where this is from a reliable source, and with plumbing and sewerage properly constructed it will be possible to practically eradicate those diseases which are due to bad water and sewage from houses.

But much of the permanent benefits to be derived from a sewerage system in any town will depend upon the systematic superintendence of all parts of it by the town engineer's department. To this end it is necessary that not only should plans and details of all street sewers be carefully made and preserved but also that the same be made of all house-drains and plumbing. Houses are sold or rented by successive tenants and often it is impossible without much trouble and expense to discover afterwards their location and construction. The following outlines for a registration of plumbing and house drainage plans, supplied by the Brockville sewer commissioners may be examined and with advantage followed.

The first step is where a householder gets notice from the medical health officer, when a street sewer has been constructed to put in house plumbing and drainage to connect with the sewer.

FORM I.

OFFICE OF THE BOARD OF HEALTH.

BROCKVILLE, Ont., ———, 188—.

To ———

TAKE NOTICE.—That the discharge of house-wastes and sewage through the drain from your premises, situated on the side of street, between street and street, is contributing to create a public nuisance, and is liable to contaminate the public water supply.

You are therefore notified that the use of such drain for discharge of house wastes and sewage is hereby prohibited. A continuance of the nuisance will be followed by a prosecution as provided by statute.

A proper public sewer is now constructed on the street adjoining the above premises, designed to carry all your water wastes from sinks, baths, water closets, etc., and it is desirable that you should make proper connection with it.

By applying at the office of the Sewer Commissioners, all necessary information respecting the making of connections with the street sewer can be obtained.

(Signed) HARRY E. VAUX, M.D.,
Medical Health Officer.

Application as per the following Form II. is made to the Sewer Commissioners to construct a house sewer and plumbing.

FORM II.

Application for Sewer Connection.

No. 30.

BROCKVILLE, 20th April, 1889.

To the Sewer Commissioners:

I, the undersigned, hereby apply for permission to construct a house sewer and make sewer connection with the main sewer on Orchard Street, from premises situated on the east side of Orchard Street, between King Street and Pine Street, owned by Geo. R. Webster, to be occupied by Geo. R. Webster as a residence. The plumbing fixtures are as follows:—Bath tub, kitchen sink, two wash bowls, and one water-closet, which work is being done by plumbers, Stetsen & McBrearty, about April, 1889. (See plumbing application No. 13).

I hereby agree that all work done shall be strictly in accordance with the provisions of the "By-law regulating the sewers in the town of Brockville," and the "Rules and regulations prescrided by the Board of Sewer Commissioners," and that all claims against the town of Brockville or the Board of Sewer Commissioners for damages occasioned in any manner by the execution of the above work shall be satisfied by me.

(Signed) GEO. R. WEBSTER, Owner.
GEO. R. WEBSTER, Occupant.

Diagram.

Permit granted, 20th April, 1889.
Work commenced, before April 20th—inside.
Work completed, 23rd April.
Inspected by S. A. Logan—saw connection made and pipes laid.
Dates of inspection, 23rd April.
Remarks. Work done by Stetsen & McBrearty.

As per the following Form III., the application is granted.

FORM III.

BROCKVILLE SEWERS.

House Sewers and Drains.

Permit No. 23.
Date, 20th April, 1889.
Application No. 30.
To Geo. R. Webster.
Work to be commenced. at once.
By Stetsen & McBrearty.

BROCKVILLE SEWERS.

House Sewers and Drains.

No 23. BROCKVILLE, 20th April, 1889.

Permission is hereby given to George R. Webster to execute the work specified in application for sewer connection No. 30, in accordance with the provisions of the By-law regulating the sewers in the town of Brockville, and the rules and regulations prescribed by the Board of Sewer Commissioners.

(Signed) WILLIS CHIPMAN,
Engineer.

The owner then engages a plumber to prepare a specification, and having made an estimate of cost the plumber submits his plans for approval to the engineer of the department, as per Form IV.

FORM IV.

Brockville Sewers.

Plumbing Application No. 13.

Brockville, Ontario, 10th April, 1889.

To the Sewer Commissioners:—

We, the undersigned, hereby apply for permission to do the plumbing work in the premises on the east side of Orchard Street, No. 217, owned by Geo. R. Webster, in accordance with the following description and plan:

Fixture.	Pattern.	Waste.		Size Trap.	Vent.	
		Size Inches.	Weight per foot.		Size Inches.	Weight per foot.
Water closet......	Sanitary.				Room vented into cock-loft by shaft 8 x 12.	
Bath tub.........	Copper, 14 oz.				All to be done according to rules and regulations.	
Wash bowl.......	Oval, marble.					
Kitchen sink...	Cast iron 30 x 18.					
Slop hopper......						
Urinals..........						
Fixed wash tubs..						
Fixed wash trays:.						
Soil pipe..........	Cast iron.....	....	....	None......	....	Vent through roof.

We hereby agree to conform strictly to all the rules and regulations adopted by the Sewer Commissioners, and to give due notice when work is ready for inspection.

(Signed) GEO. R. WEBSTER,
Owner or Agent.

(Signed) STETSEN & McBREARTY,
Licensed Plumber.

The work having been completed the department is notified, and an inspector sent to examine the work and to report.

The following illustrates such report:

FORM V.

Brockville Sewers.

Plumbing Inspections.

April 22nd, 1889.

Inspected plumbing on first floor, found plumbers at work on sink connection.

(C. J. M).

April 25th, 1889.

Inspected plumbing. Found vent pipe of basin too low below top of trap to prevent syphoning. Notified plumber to have it changed.

C. J. M).

April 26th, 1889.

Found vent for the basin trap altered to top of said trap. Found vent of water closet connected by a putty joint; ordered its removal, and that a rubber joint be used instead.

May 1st, 1889.

Inspected plumbing. Applied water test. Found everything satisfactory.

CESURE J. MARANI.

The work having been finally completed to the satisfaction of the department, a compend of the work is made and filed away in the ledger of the department of the Sewers Commissioners for future reference, as per the following form:

FORM VI.

BROCKVILLE SEWERS.

Plumbing Inspections

Application No. 13. Date, 10th April, 1889. Plumber, Stetsen & McBrearty. Owner, Geo. R. Webster. Premises on the east side of Orchard Street.

Description.

Fixture.	Pattern.	Waste.		Size Trap.	Vent.		Remarks.
		Size Inches.	Weight per Foot.		Size Inches.	Weight per Foot.	
						lbs.	
Water closet.... 1	Sanitary.	4	Lead bend	4	2	3½	All in accordance with rules and regulations.
Bath tub 1	Copper, 14 oz..	1½	....	....	1½	2⅔	
Wash bowl..... 1	Marble. ..... One not enclosed with wainscotting.	1½	....	1½	1¼	2⅓	
Kitchen sink ... 1	Cast iron	1½	....	1½	1¼	2⅔	
Slop hopper	....	....	....	....	....	....	
Urinals	....	....	....	....	....	....	
Fixed wash tubs.	....	....	....	....	....	....	
Fixed wash trays.	....	....	....	....	....	....	
Soil pipe 4	Cast iron.....	....	....	None...	Through roof.		

The health history of each house in the town ought theoretically to be kept with these plans, but as this would belong to the department of the Medical Health Officer it would not be difficult under a proper system for a person wishing to buy or rent a house to get complete information regarding it from both departments.

DISPOSAL OF SEWAGE.

This subject very naturally becomes of interest in connection with the development of all sewerage systems, whether separate or combined. Advantageous as the separate system of sewerage is, it certainly, were the great advantage of rapid delivery not on its side, does pour forth its sewage in a more concentrated form than the latter ; and if this delivery should be into a small stream, the nuisance resulting from such a method of disposal would be of a serious character.

In this Province, with its system of inland lakes, situated upon the shores of which are our largest cities, the dangers associated hitherto with the disposal of sewage by pouring it into these waters have not been great ; but their increased use as sources of water supply, the rapidly increasing population and the construction of sewerage systems in many towns, all demand that the question receive careful consideration on the part of health authorities. That this is being done to some extent may be gathered from the schemes which, under Section 30 of the Public Health Act, 1887, have been submitted for the consideration of your Board ; and by the various propositions which are at present being made to Toronto, London, etc., for solutions of the problems they have respectively to deal with.

As frequently remarked in reports and pamphlets already issued by the Board, there are three ordinary methods for disposal of sewage, and each of them to-day has its special advocates, while almost every sanitarian is agreed that according to circumstances each may be suited to its own particular case. Thus, as things are at present constituted, with a comparatively small population, an uneven surface and a rocky soil in and around Brockville, while past the town flows the St. Lawrence, with an enormous volume of water, to the rapids below, and no town very near, the pouring of its sewage into deep water in the river below the town was a proper disposal. On the other hand, with currents westward at times and no notable eastward movement of the waters of the lake, it becomes a grave question to decide whether Toronto, in her own interests, can pour sewage into the lake to the west of Scarboro' Heights and at the same time pump her water supply from outside the Island. London again is confronted with an injunction restraining her from pouring her sewage into the Thames, a small stream on the banks of which suburban residents are subject to the effluvia from the shores during the low water of the later summer months. We have in such cases to enquire whether one or other of the two methods left at our disposal can be utilized with advantage in these and the numerous other cases which in coming years will, in Ontario, demand consideration.

Already, in one instance, has it been attempted to solve the problem of disposing of the sewage upon the land, by laying out at the Asylum for the Insane, London, a sewage farm with the various structural accessories necessary to it. The following details of the farm are a matter of some interest, and as they have been submitted to and approved of by the Board, they may be of interest in this connection.

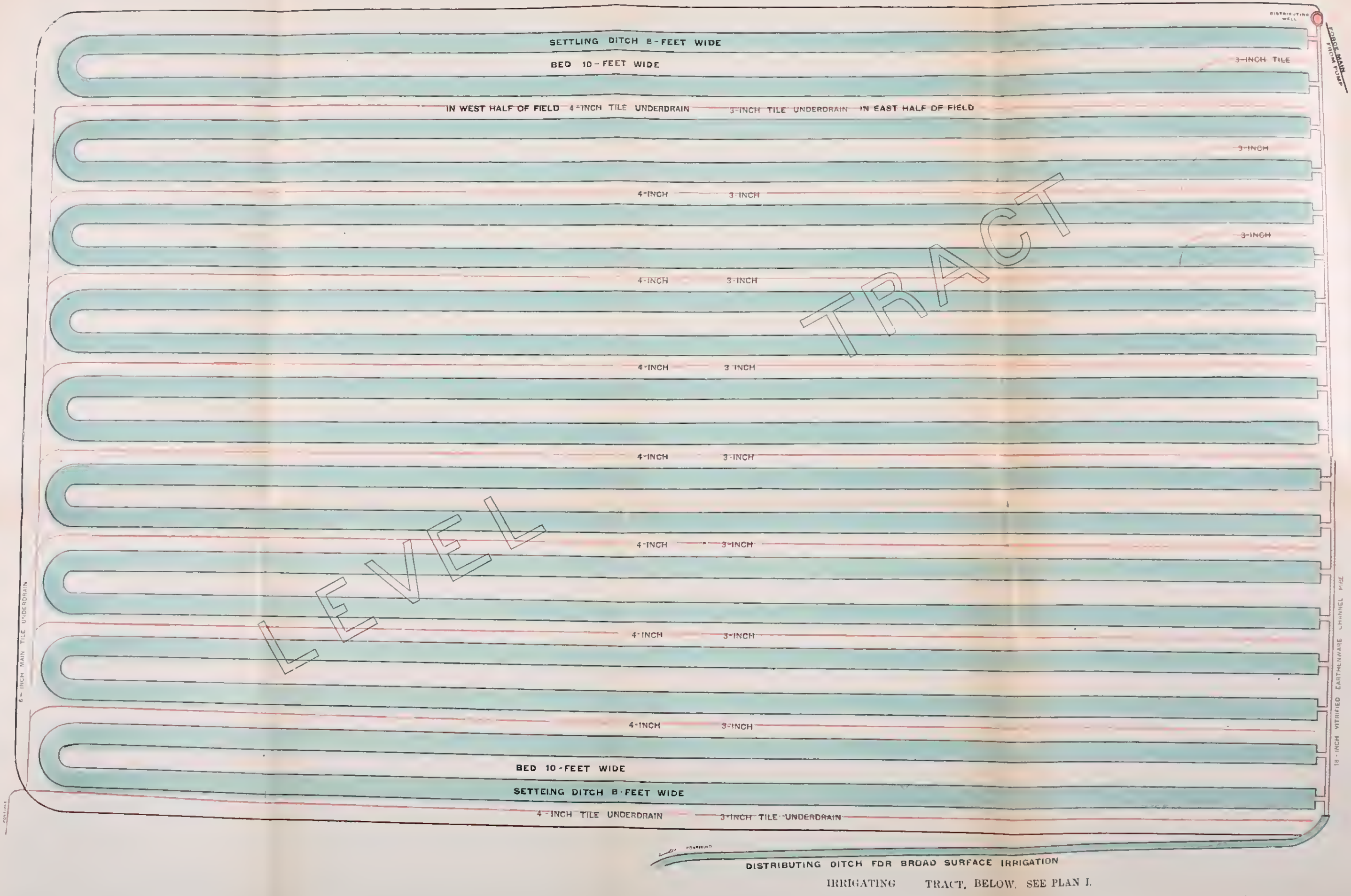
The following extracts are taken from Col. G. Waring's report to the Department of Public Works. Having referred to necessary improvements in the plumbing and the carrying of the various drains to the main sewer from the buildings, he says :

(1) At the head of this drain and outside of the building, there should be placed a fresh-water flush-tank with a discharging capacity of 150 gallons, which should be supplied with water by a small stream sufficient to fill it once or twice in twenty-four hours. When filled to the overflow point it will discharge its contents rapidly and flush the six-inch drain leading from it to the main tank. In this case, as in all others, the vertical soil pipe, or connections, must be so vented that the flood of water delivered through the sewer by the flush-tank, cannot draw the water out of their traps. Where ventilation is not now carried above the roof of the building, traps may be protected by the use of McClellan's mercury seal trap, made by the Dubois Trap Co., of New York city.

This is easier and more cheaply applied than continuous vent pipes, and is at least equally effective. At this point all of the fixtures should be carried to one outlet instead of having two, as now.

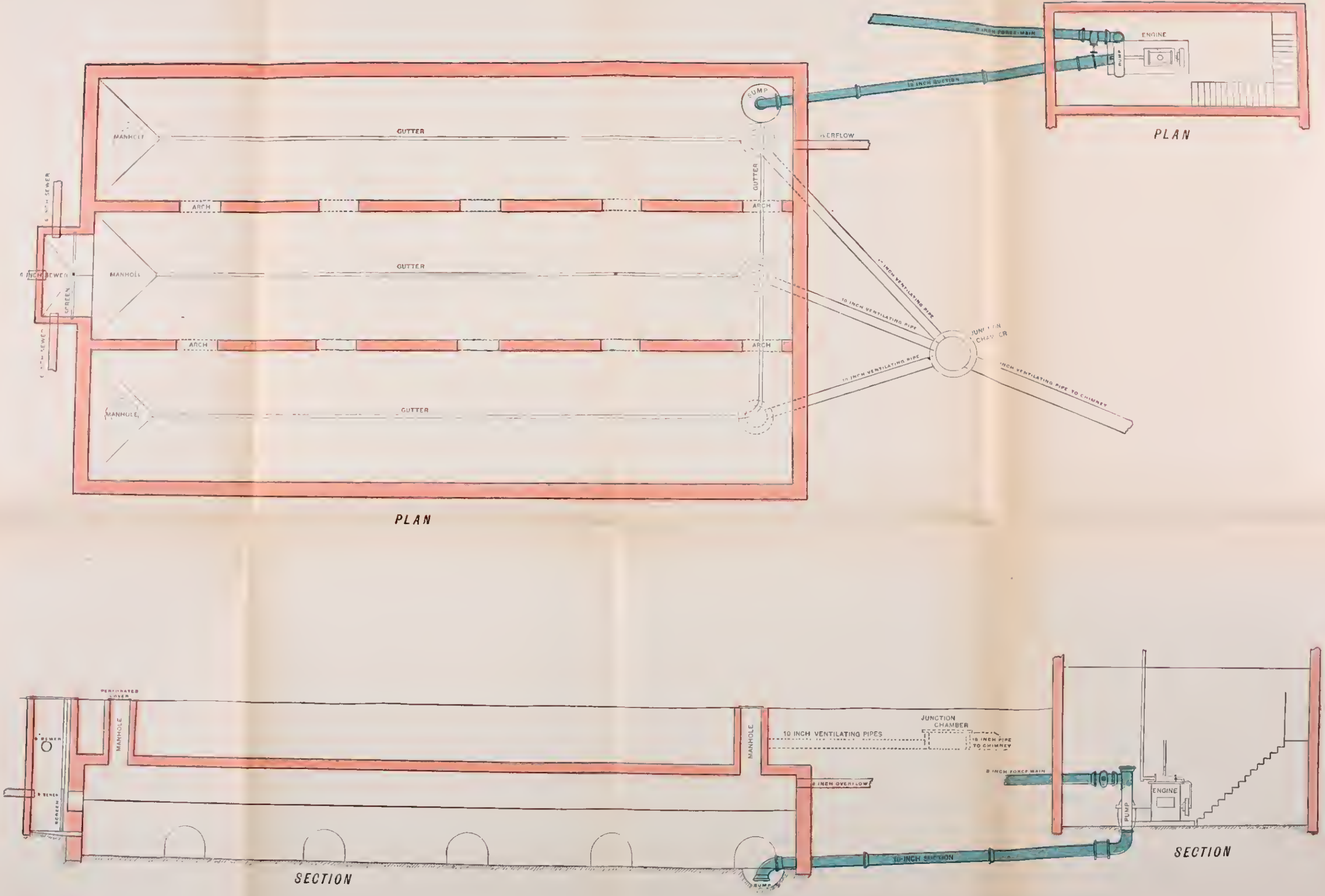
PLAN OF DISPOSAL FIELD

(*Plate IV.*)


DISTRIBUTING WELL
FORCE MAIN FROM PUMP
SETTLING DITCH 8-FEET WIDE
BED 10-FEET WIDE
9-INCH TILE
IN WEST HALF OF FIELD 4-INCH TILE UNDERDRAIN
3-INCH TILE UNDERDRAIN IN EAST HALF OF FIELD
3-INCH
4-INCH
3-INCH
3-INCH
4-INCH
3-INCH
4-INCH
3 INCH
4-INCH
3-INCH
4-INCH
3-INCH
4-INCH
3-INCH
4-INCH
3-INCH
LEVEL TRACT
6-INCH MAIN TILE UNDERDRAIN
18-INCH VITRIFIED EARTHENWARE CHANNEL PIPE
BED 10-FEET WIDE
SETTEING DITCH 8-FEET WIDE
4-INCH TILE UNDERDRAIN
3-INCH TILE UNDERDRAIN
CONTINUED
CONTINUED
DISTRIBUTING DITCH FOR BROAD SURFACE IRRIGATION
IRRIGATING TRACT, BELOW. SEE PLAN I.

COLLECTING TANK AND PUMP HOUSE

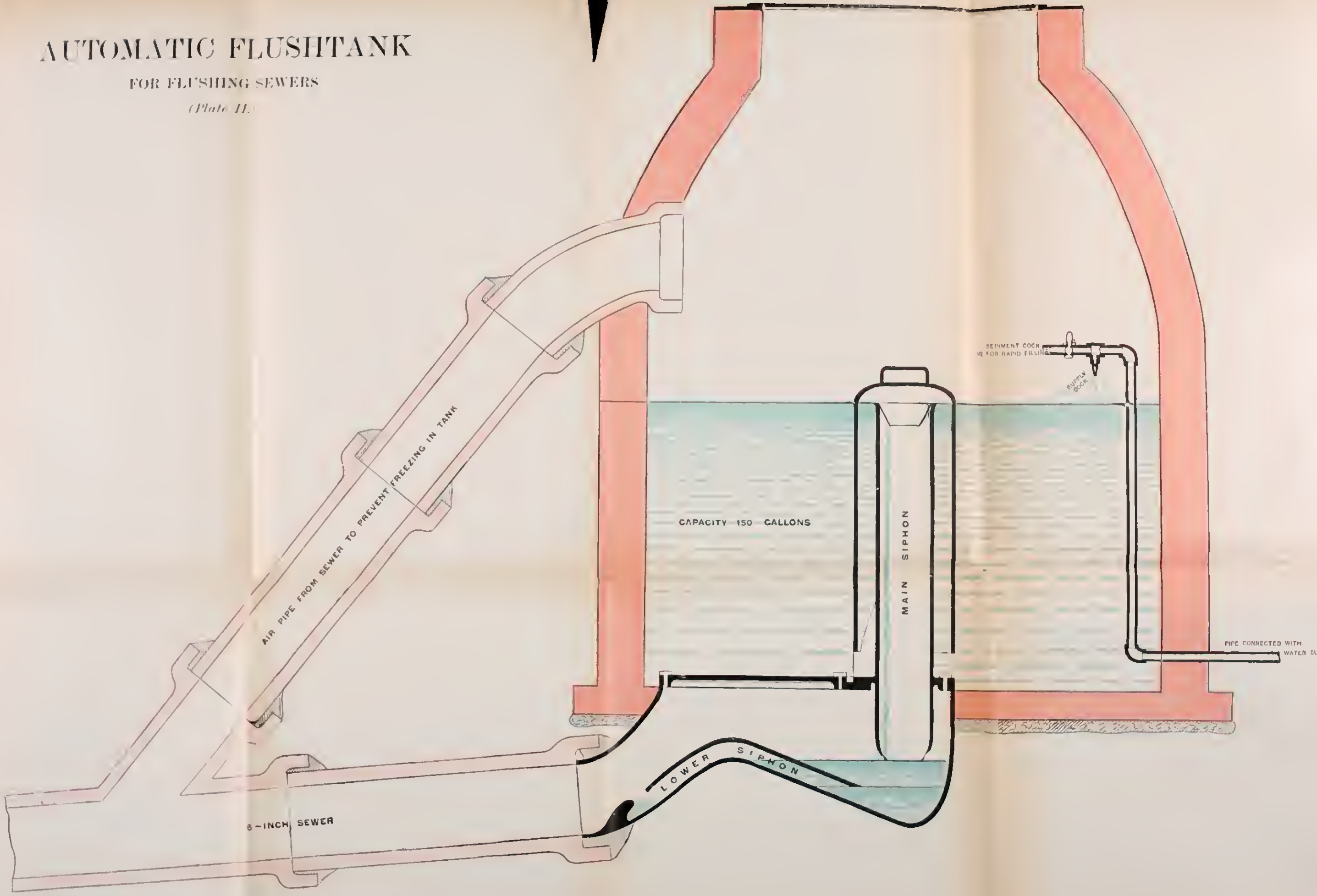
(Plate III.)



AUTOMATIC FLUSHTANK

FOR FLUSHING SEWERS

(Plate II.)

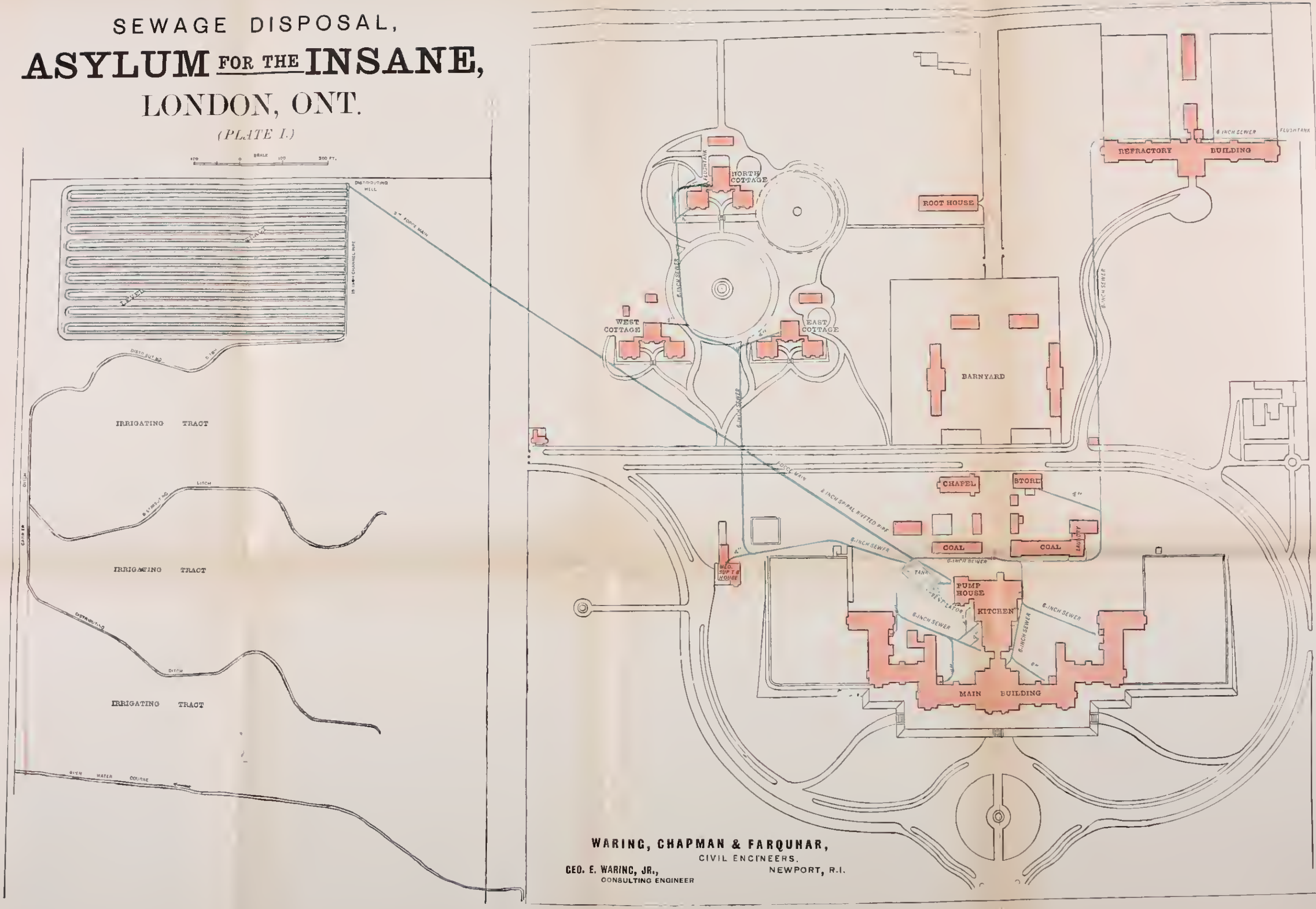


SEWAGE DISPOSAL,

ASYLUM FOR THE INSANE,

LONDON, ONT.

(PLATE I.)



WARING, CHAPMAN & FARQUHAR,
CIVIL ENGINEERS.
GEO. E. WARING, JR.,
CONSULTING ENGINEER
NEWPORT, R.I.

In laying the new drains beyond the length of iron pipe passing through the foundation, only the best vitrified drain pipe of true form should be used, great care being taken that the sockets are in all cases large enough to admit of a quarter-inch gasket of oakum to be driven to the bottom of the joint. This gasketing being well driven home, mortar made of one part of cement and one part of sand should be firmly pressed into the joint, rubber mittens being used instead of a trowel. When the joint is full it should be smoothly bevelled in the angle between the socket and the pipe.

Pipes should be laid on their full beds, the bottom being dug out to give room to the sockets.

The filling should be carefully packed at the sides of the trench to the height of the middle of the pipe, great care being taken not to displace the pipes and open the joints. The next foot of filling should be of fine material, carefully put in place and lightly rammed. From this point up the earth should be well rammed to the top.

With a pipe of this size there are objections to the use of manholes. I recommend in their stead the use of oblique inspection pipes, set in pairs at intervals of about 300 feet. The castings for these can be procured from the Dececo Company, Newport, R. I. The cost will be somewhat less than the cost of manholes. The plan of the buildings and of the grounds indicates the location, arrangement and size of the present drains, which are used for the removal of foul wastes and of storm water. I advise that these drains remain unchanged, except so far as is necessary to cut off the connection between them and all sources of foul sewage, leaving them to continue their present service so far as the removal of storm water is concerned. These are the drains indicated on the plan submitted to me. The plan sent herewith shews in red lines the new drains recommended for the collection and removal of foul wastes. These all lead to an underground tank, to be constructed, as shewn, to the rear of the west wing of the main building.

The details of this tank are shewn in the drawings. Its interior size is 70 feet by 40 feet. Its walls are 16 inches thick. Its bottom is of concrete. It is covered by three longitudinal arches, 12.66 feet span, 12 inches thick. These arches rest on two longitudinal walls with arched openings. The floor of the tank is graded as shewn, varying between elevation 31.9 and 32.3 respectively. Each section has a longitudinal drainage gutter, with its upper end at 32 22 and its lower end at 31.98, 31.94, 31.90, with a cross gutter leading to a sump four feet in diameter with its bottom at grade 30.0.

The bottom of this sump is hemispherical, and the suction pipe of the pump is centrally located, having six inches space between its mouth and the bottom. This mouth should be bell-shaped, not straight as shewn in the drawing.

The elevation of the ground at this point is 47.5, making the surface of the floor of the tank about 15 feet below the surface.

There are three manholes at each end of the tank, with covers at the surface of the ground. At the receiving end of the tank, at the head of the central chamber, is a screening chamber reaching to the surface of the ground and with its bottom at elevation 34.4.

The opening from this chamber into the tank is 8.33 feet wide, and it is provided with a screen carried in slots in the side walls 4.5 feet high in the centre. This screen is to be made of wrought iron and galvanized. The vertical bars to be of half-inch round iron, and the openings between them one inch wide. The top of this screening chamber is covered at the surface of the ground with a hinged wooden cover. The plan of the tank shows iron tie rods at 10 feet intervals.

These will not be needed if, as is probable, the earth will afford a sufficiently firm support for the walls to prevent spreading from the weight of the arches before the filling becomes firm.

As shown in the drawing, there are three lines of drains entering the screening chamber. The one leading from the Superintendent's house enters at grade 36.3, while those from the outer buildings enter at grade 43.0.

It is intended that the tank shall be filled to a depth of five feet, or to the spring of the arches. Its capacity to this point is a little more than 100,000 gallons. The precise location of the pump is not fixed. It is to be placed wherever the architect shall find it most convenient in connection with other work, but it is assumed that it will be about 60 feet east from the sump corner of the chamber. This pump is to be placed in a pit having its bottom at grade (?) It is a six-inch Webber rotary pump with a ten-inch suction, and with a force main leading to the north-east corner of the north field. This force main is ten inches in diameter and 2,500 feet long.

Near the pump chamber, as shewn, this force main has a branch eight inches in diameter leading to the receiving-well of the west absorption field, a distance of 1,550 feet.

I recommend for these force mains "Spiral Weld" steel pipe. with an impermeable coating.

The eight-inch force main has a gate near its connection with the ten-inch main, to be closed when it is desired to pump to the north field. When the gate is open the whole flow will pass through the eight-inch main, which delivers at much less elevation than the ten-inch.

It is assumed that the tank will hold one day's sewage. It is not very material whether it is somewhat more or less.

As the levels have not been received for the north field, I am sending now only the arrangement for sewage disposal on the west field, which has an available area of about 30 acres. This arrangement is shewn in the drawings.

The receiving well at the point shewn is to be constructed as shewn in the drawings.

Its inlet is at the bottom, and the force main has a continuous rise from the pump. The pump has no valve. Therefore, whenever the pump is stopped the contents of the receiving well and force main will flow back into the tank, so that there will be no trouble from freezing.

At the highest part of the field, a tract, occupied in the drawing by parallel red lines, west and south of the receiving well, is brought to an absolute level at an elevation of about 45.8.

This level tract is laid off in communicating parallel ditches as shewn by the red lines, and is underdrained as shewn by the blue lines. The main outlet from the receiving well has a fall of one in 500. At its lower end it delivers into a distributing ditch, which is continued by a carrier parallel with the west side of the field, from which carrier two distributing ditches, BB and CC, are laid, as shewn.

The carrier ditch has the natural fall of the land, the distributing ditches have a fall of one in 500. At a point south-east from the level field there is a short level catch ditch, "AA," intended to intercept the surface flow of sewage down the steep slope near it, and distribute more evenly over the depression below. The need for the catch ditch may be avoided by such grading at this part of the tract as will bring the contours more nearly parallel. The drawings show the details of construction of the details of the irrigation field.

The main outlet from the receiving well is to be made of half pipes (vitrified). This pipe is to be without sockets, and is to be laid in vitrified collars, or sleeves, as shewn.

The pipes may be laid an inch apart. They are depressed six inches below the general surface of the ground, the earth being sloped back from the inside of the pipe, as shewn in the section.

At the end of each of the parallel ditches, connection with the main outlet channel is made by a concrete branch piece, constructed as shewn in the plan. It would be difficult to secure half branch pieces of vitrified pipe.

The concrete should be made with the best Portland cement, and should be thoroughly hardened before frost, and well hardened before the laying of the vitrified connections. The gate slots shewn in the plan of the main outlet are one and-a-half inch spaces between the half pipes and the concrete branch pieces. They are to be furnished with movable iron or wooden gates, by placing and removing which the flow of sewage can be directed at pleasure into all or any of the parallel ditches. The connection between the concrete branch pieces and the ditches, is made with two lengths of vitrified pipe (four feet). As the bottoms of the ditches are all in the same plane, and as the main outlet has a fall, there will be a drop of varying height from the half pipes into the ditches. At this point, and even where the drop runs out at the lower ditch, the bottom of the ditch should be roughly but strongly paved, as shewn, to check the flow and prevent the cutting of the bottom at that point. The relation between the half pipe and the ditch is shewn in the "Section of Settling Ditch." These ditches are eight feet wide at the top, two feet wide at the bottom, and one-and-a-half feet deep. They are separated by beds ten feet wide at the surface. This level area with its settling ditches may be used for intermittent downward filtration, and as the total capacity of the ditches is equal to twice the capacity of the tank, even were there no immediate filtration, the area could be worked in two sections alternatively. Making allowance for filtration during pumping, it probably can be worked alternatively in three areas. Two or four of these ditches at the lower side of the field may be used, if found necessary, as settling ditches to deposit heavy matters before delivering the liquid over the surface of the irrigation tract below.

It will make little difference, so far as the delivery by the distributing ditches is concerned, whether the sewage runs through the parallel lines or not. Its final delivery will be from the end of the main outlet into the head of the upper distributing ditch.

The section of the distributing ditch should be about as shewn in the drawing of the "Section of Carrier and Distributing Ditches," which are four-and-a-half feet wide and one foot deep.

If the flow through the distributing ditch is arrested at any point, as it may be by sticking a wrought iron gate into the earth, making a dam across the top, the sewage will overflow for a greater or less distance above the dam, according to the volume of the current. If the dam is placed first at the lower end of the upper distributing ditch it will overflow, for example, 200 feet above the dam. When the ground to be reached by this overflow has received a sufficient supply of sewage, the dam is placed higher up stream, and the overflow carried over the next section of 200 feet, and then, in like manner, to the third section. Should the ground between the two ditches not be able to absorb all the sewage discharged upon it, the overflow will be caught by the second distributing ditch, BB, and if its quantity is sufficient can have its distribution regulated by the placing of a dam there as above.

It is probable that in ordinary conditions of the soil there will not be much passage of sewage from one ditch to another unless from the west end of BB, to that end of CC. It would, of course, be possible to regulate this distribution more exactly by bringing the whole field to a careful grade, but I think a satisfactory result will be obtained without going to this outlay.

At the lower end of the field, shewn by a black line, is a ditch for the removal of any excess of sewage that may reach that point. It is not likely that there will be any considerable flow to this line, and when it is reached it will have been thoroughly clarified by passing over the ground.

The main outlet is 400 feet long; settling ditches have an aggregate length of 3,600 feet; the carrier and distributing ditches have an aggregate length of 3,100 feet, and the tile drains aggregate 6,600 feet. The outlet to the underdrainage six-inch tile is to be six feet deep at the end of the upper bed, six-and-a-half feet deep at the lower bed. The lateral drains are to be four-inch tile for the lower half, and three-inch tile for the upper half. The upper ends of these laterals are to be four feet below the surface of the beds, and they are to be carried on a true grade to the six-inch outlet pipe.

In excavating for the tank, cut first a trench five feet wide, having its outer side on the exact line of the walls, carrying the trench to grade 31.0. This will allow the bank to be braced if it has a tendency to cave. If the bank stands straight, the brick-work can be built directly against it, the small voids being filled with concrete. If the caving is considerable the walls should be built true and the voids filled with sand thoroughly rammed, *after the wall has set firm.*

I assume that no specifications for the brickwork are needed in your case, but I suggest that only the best Portland cement be used in the proportion of at least one of cement to two of sand.

Great care should be taken that every brick is fully bedded in cement, on the sides, beds and ends. The walls should stand on a concrete footing, to be afterwards continued as the floor of the tank.

The gutters for the drainage of the floor may be moulded in the concrete. After the work is finished, the whole floor, walls and arch, should be smoothly rendered with a skin of neat Portland cement.

The ventilation of this tank will be in connection with the manholes, probably also in connection with the chimney-stack. Details for this will be sent later.

The following report on Col. Waring's plans expresses the Board's view of this matter:

PROVINCIAL BOARD OF HEALTH, ONTARIO,
TORONTO, September 12th 1888.

To the Chairman and Members of the Provincial Board of Health:

GENTLEMEN,—Your committee having received, along with a communication from Dr. W. T. O'Reilly, the Inspector of Public Institutions, the plans for the proposed construction of a system of irrigation for disposing of the sewage of the London Asylum, begs leave to report thereon as follows:—

1. That it gives your committee especial pleasure to view the efforts which have been made by the Ministers of the Departments having charge of Public Institutions and Public Works, and by their deputies, for the solution of the difficult problem of the disposal of the sewage of one of our largest public institutions in such a manner as is in keeping both with the law against the pollution of streams and with those more modern scientific methods which, from time to time, have been recommended for adoption by this Board to different towns and cities in the Province. It is only proper that the Government should be the first in the Province to undertake the system of disposal of sewage on land by a method which, however successful it may have been

elsewhere, must still be considered an experiment in Canada, since, if successful, it will serve as an object lesson and educating medium to our many municipalities which have to deal with similar questions; while, if but a partial success, it will still have been an expenditure incurred in the interests, presumably, of the whole Province.

2. Your committee would concur most heartily in the preliminary observations of Col. Waring to the effect that it is essential to any fair test of the proposed system of sewage disposal, that the house drains and plumbing throughout shou'd be of such a character as to make impossible of occurrence therefrom any evil results (such as outbreaks of typhoid fever, diphtheria, etc.,) which might be unjustly charged to the sewage farm; and your committee would further add that the improvements in the plumbing proposed are of such a modern nature (examined without any special knowledge of the building) viewed generally, as to commend themselves almost without exception to your committee.

3. Your committee, not presuming to pass judgment on the work of so eminent an engineer as regards the details and construction of receiving tank, pumping mains, and the many other questions of a mechanical nature in connection with the proposed system, assumes them to be, as they are as far as our observation and reading have gone, of a character fully abreast of all modern work in this field.

4. The question of how best to utilize or finally dispose of the sewage when arrived at the receiving tank has been one of much difficulty everywhere, as is fully set forth in the following reports:

1st. The report of a committee appointed by the Local Government Board (Great Britain) to inquire into the several modes of treating town sewage, 1876.

2nd. The purification of water carried sewage by Robinson & Melliss, member Ins. C. E., Eng., 1877.

3rd. Sir R. Rawlinson's plans for main sewage, drainage and water supply, 1878.

4th. Commission technique de L'assainissement de Paris, 1883.

5th. S. M. Gray's report on proposed plan for a sewerage system for City of Providence, R.I., 1884.

6th. Recent reports from various papers and journals *re* irrigation farms at Gennevilliers, Berlin, Coventry, Pullman, etc.

Some of the conclusions your committee would gather from these reports are:

1st. That the character of the sewage of different towns as regards its contents and dilution alters somewhat the difficulties of preventing a nuisance when the sewage is poured upon the land.

2nd. That the dangers of a nuisance are increased or minimized by the particular method of irrigation adopted.

3rd. That broad irrigation without underground drainage does create a nuisance in heavy soils. (See Robinson & Melliss, p. 99, etc., etc.)

4th. That raw sewage can be poured on an open, gravelly soil without creating a nuisance. (See Rawlinson, p. 18.)

5th. That the method proposed in the combined broad and flat-bed scheme of Waring is likely to prove, with flat-bed subsoil drainage, that careful and intelligent supervision will enable the farm to be carried on practically without nuisance.

Thus says Prous before the French Commission:—

"It is necessary to maintain the greatest possible aeration of the soil, to distribute water regularly, that is, in even quantities and equal intervals of time, in such a way that its descent through the soil lasts at least the time desired for its purification; to take, when necessary, measures for drawing off water from the soil (sub-soil drainage). In a word never to allow it to accumulate in the soil." Brouardel, however, in his examination before this Commission, was not absolutely certain that injury might not come from infectious particles being lifted into the air from the sewage fields, and is supported in his fears of possible trouble by Pasteur, Frankland, etc.

Durand Claye, the Engineer of Gennevilliers, states that the statistics proved that with typhoid epidemic in Paris in 1883, there were during the same year only two cases of typhoid in the commune of Gennevilliers (and they were imported from Paris) in which the great sewage farm is.

6th. Speaking for ourselves, after a careful review of the biological facts which form so prominent a part of the question of sewage farms, we would say that the sources of possible danger pointed out by Pasteur being due to the development of bacteria during the putrefying processes which the sewage undergoes, with the subsequent transportation by winds of said bacteria from the surface of the soil when it becomes dry (as is the case with the germs of malaria or ague from drying marshes) can, we believe, in a large degree be obviated :

(*a*) By the green crops, such as rye grass, which are found to do best on the broad irrigation surfaces, *i. e.*, between the distributing drains A, B, etc., preventing the rise of bacteria, at times possibly pathogenic, into the air.

(*b*) By preventing (as in depressions of the ground) accumulations of sewage—forming putrefactive centres ; and by not allowing in the furrows of the flat-bed system either accumulations of sewage on the one hand or the drying out of putrefied sewage on the other.

(*c*) We would further say that we feel free to recommend the adoption of the system since, should it be found in the future that surface irrigation cannot be carried on without producing a nuisance, it will be very easy to so arrange at the irrigation field for settling tanks, from which the clarified sewage can be distributed in the same manner as now contemplated, or by shallow sub-soil field tile drainage. The sludge from the tanks could then be readily carted away and ploughed under at once.

4. Regarding the important question of whether the effluent from the sub-soil drains can with safety be turned into Carling's creek, your committee would remark that the water from such sewage farms is found both in England, France and Germany to be practically pure water, Durand Claye stating before the Paris Commission that there were not more than sixty-seven bacteria per cubic centimetre in that from the Gennevilliers farm, and that it contained fewer than the water of the River Vanne, supplying Paris. A member of your committee has found in well water ninety-seven bacteria per cubic centimetre.

The published report of the Provincial Board for 1887, under the heading "Public Water Supplies," points out most of the known facts on the bacteriology of the soil, from which it is apparent that the soil a few feet below the surface contains few bacteria, the deeper strata not favouring their multiplication through absence both of organic matter and air.

In conclusion your committee would strongly support the proposed scheme.

All of which is respectfully submitted.

J. D. MACDONALD,
H. M. MACKAY,
PETER H. BRYCE,
Members of Committee on Sewerage and Water Supplies.

This scheme, as proposed by Col. Waring, is the same in principle as that adopted at Pullman, Illinois, and described fully by Dr. W. Oldright in the Board's Report for 1887. Its engineering details and methods of subsoil drainage are those which the conditions seem to have indicated. Manifestly, should the management of this farm be carried out with careful attention to details, it will become a model for those towns which have the work of disposal of sewage under consideration. While at Gennevilliers, below Paris, France, at Berlin, in Germany, and other places, these farms have not been instituted primarily from the standpoint of profit, yet there, as at Pullman, they have, in addition to solving the sewage problem, paid a small interest on the capital invested.

Remaining for our consideration is the precipitation method of disposal. Manifestly this scheme appears at the outset cumbrous and expensive, assuming as it does the dealing specially with the daily sewage of cities, in some cases amounting to many millions of gallons.

It has not yet been found possible for the London Metropolitan Commissioners to summon up enough courage to deal with the enormous quantity of London sewage by either the sewage farm or precipitation method. Its main features are, however, the throwing down of the coagulable albuminoid portions of the sewage, after the settling of the heavier solid matters, as refuse of all kinds and sand, which find their way into the sewage by precipitants such as lime, alum, etc.

Where combined systems of sewerage exist, as in the cities and towns of England, this method is of great value, inasmuch as it supplies in the supernatant water drawn off from the precipitation tanks the ammonia and other alkaline salts with the soluble phosphoric acid compounds in such a state that they can rapidly filter through the soil of a sewage farm without creating any nuisance.

The method is annually becoming more generally adopted whereby the precipitate or sludge is compressed into cakes by filter presses such as that made by Messrs. S. H. Johnston & Co., Stratford, England, and so dried thereby that it can be readily transported in blocks for commercial purposes. To illustrate the great advantage of this method, it may be stated that while the precipitated solids form but one-tenth part of the sludge after running into filter presses they form one-half of the contents of the pressed cake. The bulk of the sludge is thus reduced to one-fifth that of the initial sludge. With the perfecting of the mechanism of these presses and their more general use, their price may now be considered to be within the reach of every municipality which needs to adopt them.

From these illustrations it becomes apparent that methods exist, even if costly, whereby the sewage may be safely disposed of apart from that now so generally adopted of pouring it into the neighbouring stream or lake. As already remarked, the great point is for municipalities to decide on that method which leaves its own and other water supplies unpolluted. In the case of Toronto, two consulting engineers, Messrs. Rudolf Hering and Samuel M. Gray from the United States, have been engaged in reviewing the work and propositions which three years ago were submitted by Messrs. McAlpin and Tully for the extension of her public water supply and for disposing of the enormous volume of sewage now poured into the bay. They have practically confirmed the conclusions already arrived at, viz., that it will be perfectly safe, as it is the most economical method, to pour the sewage into the lake near Victoria Park.

The following is quoted from their report :—

" But, with a sewage discharge near Victoria Park, several thousand feet from shore, it is possible to draw the water from the present intake opposite the Island and to allow a distance for dispersion of sewage of about six and one-half miles. The total cost of disposing of it in this way is estimated at $1,471,048.00, which makes this project nearly half a million dollars less expensive than the other one, and has a further advantage in greatly facilitating an immediate increase of the present supply, as mentioned above.

We have no fear that by the westerly movement of the littoral drift the sludge will be carried far towards the Island, before the bed of the lake will show its entire disappearance. Nor, if the sewage is passed through a strainer, having an inch mesh, do we think that objectionable floating matter will be found stranded along the near shore. The proposed improvement of the eastern entrance to the harbor and the proposed outlet of the river Don at the eastern end of Ashbridge's Bay will aid in dispersing the sewage matter by deflecting or breaking the current when it moves towards the Island.

The intake being in deep water near the bottom where the current is slight, is a further protection, because whatever matter might accidently have drifted to so great a distance, would most probably be near the surface and not in the more quiet current near the bottom.

As already stated, however, we are willing to admit the possible advisability of clarifying at least some of the sewage in the future, when the city has trebled its present population. Whatever is herein recommended will not interfere with ultimately adding works for this purpose, but will really form a necessary part thereof.

For the above reasons we believe that it is safe to locate the sewage outfall opposite Victoria Park, in thirty feet of water, at least two thousand feet from shore, and being also the most economical project, we believe it to be the proper one for the city to adopt, This outfall was suggested in the city engineer's report of November, 1886."

The reasoning by which these conclusions are arrived at is contained in the following statements :—

" The available localities for a sewage discharge depend upon the points from where the water supply is drawn, which, as we advised above, should be taken from Lake Ontario. The fact of drinking water coming from the same lake into which we discharge sewage, should not necessarily disturb us, any more than breathing the same air into which we continually exhale the discarded gases and other effete matter from our lungs.

The objection to such pollution is mainly one of degree. If we have a high degree of dilution, in the first case with pure water and in the second with pure air, we have yet to discover the slightest evidence that any harm has resulted. The gradual self-purification of polluted water and air by means of oxidation, through the excess oxygen contained in the diluting medium, is an established fact, and is nature's method of correcting what would otherwise be a serious evil. For our purpose it is a question of degree of dilution, and in both cases we have enough experience to approximately indicate safe limits.

The regular and constant current of rivers enables us to fix this limit with greater exactness than when the sewage is discharged into a large body of water, such as Lake Ontario, in which the currents move in almost any direction or sometimes are quite imperceptible. Still, it is not difficult to reach some conclusions in this case.

If the sewage is discharged into the lake in deep water near the bottom, we are safe in concluding that the *sludge*, *i. e.* the heavier matter, will very soon settle and no longer be contained in the water a few thousand feet, perhaps a mile, distant. At long intervals dredging can easily and cheaply remove any large accumulation at the outfall. The lighter and fatty ingredients of the sewage and those which are held up by attached bubbles of gas, rise to the surface and are moved along by the current, thus constituting the chief danger. Both in rising and subsequently in their horizontal movement, they are separated and dispersed along the cycloidal paths travelled by particles of flowing water. One cubic foot of sewage discharged into a current of 100 cubic feet of water per second, would gradually become diffused throughout this quantity and diluted a hundred times. While becoming more and more exposed to purification by the oxygen in the water, the deleterious matter would gradually be reduced to a point beyond detection. The higher temperature of sewage as compared with lake water, will not, we think, be an important factor in dispersion, because the flow for several thousand feet in a submerged steel pipe will tend to equalize the temprature and materially reduce that of the sewage before its discharge.

Nothing but actual tests, however, will tell us how rapidly diffusion and oxidation take place and therefore how far apart we should have the sewage outfall and water intake. The season was unfavorable to make many experiments in this direction. But from general experience gained upon the lakes and elsewhere, together with the results of a few recent local observations, we believe to be justified in drawing some conclusions."

After the remarkable conclusions so readily arrived at in the preceding quotation we find the following :—

"The float observations made in the lakes do not indicate any marked difference in the frequency of the currents in one direction or in the other. Nor is it of much value for our purpose to know this difference. The fact that they move both east and west is enough to indicate that the sewage should be discharged sufficiently far away so that the unfavorable current, if only occurring once a year, will not cause the water near the intake for the city's supply to be polluted."

The last statement appears to us the only essential in the whole question, and we do not feel that we have sufficient data given anywhere which would lead us to suppose the danger therein stated is to be obviated by the proposed scheme.

On the assumption made in the report that the currents may reach a velocity of 100 feet per minute, we would have sewage moving at times at the rate of one mile an hour at least, or in six or seven it could be borne to the mouth of the water-pipe. Remembering that the scheme proposes to deal with 40,000,000 imperial gallons of daily discharge from a population of 500,000, the question which presents itself is this. With an easterly wind causing a movement of water toward the in-take pipe, can we suppose that this amount of sewage, which, according to the same gentleman, would require 5,000 acres or nearly three miles square of land to remove from it the impurities by filtration through the soil, would disappear and leave no vestige of its presence during an onward movement of six or seven hours? In the quotation made we have the statement that the objection to such pollution is mainly one of *degree.* It can hardly have been intended that we are to believe that oxidation of the sewage during these few hours can have taken place in the cold lake water to such an extent as to make it an argument in favor of the scheme, and it may fairly be said that without more scientific reasons than have been given in the report, the *degree* of the "objection to such pollution" is such as to prevent any such scheme from meeeting with general approval.

I have the honor to be,
Your obedient servant,

PETER H. BRYCE,
Secretary.

REPORT OF THE COMMITTEE ON SCHOOL HYGIENE.

To the Chairman and Members of the Provincial Board of Health:

Gentlemen,—Your Committee beg leave to report upon the following memorial which has been referred to this board by "the Honorable the Minister of Education," in pursuance of a recommendation from "the Committee on Sanitary Provisions for Public Schools of the Conference of Public School Inspectors."

The memorial reads as follows, viz.—

To the Honourable Minister of Education:

Sir.—Your Committee on sanitary provisions for public schools recommend, that there be provided a circular for distribution to School Boards, urging upon them the special necessity of complying with Regulations, Nos. 1, 2, and 3, of the Public Schools Act of 1887. Your Committee further recommend, that the said circular should give very definite directions upon the following points;—

1. The construction and arrangement of privies should receive especially careful attention.
2. The situation, lighting, heating and ventilation of new school houses.
3. The means of providing efficient heating and ventilation in existing school houses.

(Signed.) WILMOT M. NICHOLS.

Owing to the unsatisfactory means provided for the thorough ventilation of a large number of school houses, in rural sections—in addition to the very imperfect construction of the out-houses erected on school sites—your committee believe that many preventable diseases now so prevalent—especially typhoid fever and diphtheria can, by the proper observance of sanitary laws, be almost "stamped out," and recommend, that circulars should be prepared by the Provincial Board of Health for distribution among school trustees and municipal officers, with the object of pointing out to them the dangers to which both pupils and teachers are exposed from the causes mentioned, and the imperative need existing for their removal.

(Signed), WILMOT M. NICHOLS,
Chairman of Committee on School Sanitation.

There are two very common causes of disease referred to in the memorial, viz:—

1. Pollution of soil; and
2. Insufficient ventilation.

Wherever one or both of these conditions exist disease germs find a congenial soil upon which to live and rapidly increase.

The extraordinary vitality of typhoid and diphtheria germs, for a long period after they have passed out of the body, under the influence of conditions favorable to their growth and reproduction, has been repeatedly proved by innumerable facts in the history of these diseases. The conditions requisite for their reproduction are decomposing animal matter, human excreta, warmth and moisture. Hence, ill-ventilated, filthy schoolrooms, cesspools, privy-pits, often containing the accumulations of years, badly constructed drains and damp unventilated cellars should be strictly prohibited, in connection with our school accommodation.

Typhoid fever while sometimes communicated by the air, is peculiarly liable to be transmitted by means of water. Great care should therefore be taken by trustees to secure for their schools a water supply which shall be thoroughly free from all pollution of the soil, more particularly that arising from the specific poison which is contained in the discharges from the bowels of patients suffering with this disease.

Diphtheria is most commonly disseminated by means of the atmosphere. The special contagion of this disease remains virulent for a great length of time, and may be carried a considerable distance on the person or clothing without losing its activity

The attendance of pupils coming from houses where diphtheria is known to prevail should be strictly prohibited, until they are provided with a proper medical certificate stating that they are no longer capable of communicating the disease to others.

Dirty floors and badly ventilated school-rooms contribute to the spread of consumption, more especially where the expectoration of persons afflicted with this disease is allowed to remain and become dry on the floors. Under these circumstances (as pointed out in the report presented by Dr. Cassidy, at the Lindsay convention, August 14th, 1888,) the bacilli of tuberculosis rise with the dust, and enter the respiratory passages to be introduced into the circulation. Thus, this dread disease, which heads the list in the rate of mortality in Ontario, causing about 12 per cent. of our annual death-rate, may be propagated in the air of the school-room.

In proof of this we may repeat the statement contained in our health bulletin for June and July. The eminent Prof. Esmarch, of Germany, as have others, has recently found that by using a sponge dipped in glycerine, which has been previously cleansed and sterilized, and then wiping down the walls of rooms, as in hospitals, etc., he obtained colonies of bacteria varying from 6,391 to 17 colonies to the 25 square centimetres. Their number varied with the character of the wall covering, whether paint, varnish, paper, etc., and upon the position and character of the particular room. There were fewer in the upper than in the lower parts of the room,

Prof. Carnelley has shewn further, that stamping for a moment on the floor of a room, such as a school-room, raises into the air almost innumerable microbes. Winds act similarly in increasing the number of microbes in the air.

In view of all the circumstances, and the imperative necessity of immediate action your committee would recommend that the following instructions be issued from the Education Department:—

1. School Trustees shall, in every case, avail themselves of the services of the Medical Health Officer, in accordance with section 113—schedule A—sub-section 1 of the Public Health Act of Ontario—constituting this officer Medical Inspector of Schools, and Advisory Officer in School Hygiene.

CLOSETS, ETC.

2. All privy-pits shall be cleaned out, disinfected and filled in with fresh clean earth.

3. In towns provided with sewers, properly constructed water closets and urinals shall be provided, preference being given to closets which are automatic in the action, and supplied with a good system of flushing.

4. The Smead and Dowd system of dry air closets in connection with their system of heating and ventilation, has been found to work well in practice, and is well worthy of adoption.

5. When the above mentioned systems are not used, earth closets shall be constructed.

6. The construction of earth closets may be varied to suit circumstances, but the following general principles must be observed, viz.—

(*a*) An apartment provided with a suitable seat, and a pail or water-tight box for excreta—the box to have handles for convenience of handling. In large schools, however, a shallow water-tight brick vault may be used instead of the excrement pail or box, precautions being taken to have earth, ashes or sawdust scattered over the excreta every day; the vault should be emptied at frequent intervals under the direction of the trustees.

(*b*) Behind the first apartment is a second one (see diagram) in which is placed a dry earth receptacle—a rectangular shaped box is preferable; a barrel or half barrel may serve the purpose however.

(*c*) The first mentioned apartment to have a hinged opening or removable board behind the seat, so constructed as to admit of easy access, for the purpose of throwing dry earth, coal, or wood ashes, or sawdust on the excreta, with a small scoop or shovel.

(*d*) Ventilating pipes should be constructed in connection with these apartments, as also in connection with the brick vault.

The following diagram represents a single apartment, with its adjoining dry earth enclosure. When required any number of these may be constructed together.

(*e*) (a) seat ; (b) excrement-box ; (e) hinged opening, raised in order to throw in dry earth ; (d) dry earth receptacle ; (e-e) ventilating pipes.

(*f*) For deodorizing purposes moulds or loams are preferable ; pure sand is valueless clay is not easily pulverized, and is retentive of moisture.

(*g*) Dry wood or coal ashes or sawdust may be used, if loamy soil is not easily procurable.

(*h*) The earth should be properly prepared. For this purpose suitable sheds for drying and storing it should be constructed on the school grounds. Provision should also be made for screening the earth in order to remove all lumps.

(*j*) The earth or ashes, with the excreta, should, after use in the closets, be disposed of under direction of the Medical Health Officer or Local Board of Health at the expense of the School Board.

(*k*) The caretaker, or some person appointed for the purpose by the Trustees, should throw dry earth, ashes or sawdust in the excrement-boxes or vault every evening after school hours, and also every morning before eight o'clock. The earth should be evenly applied so as to cover all excrement exposed. This work to be done under the direction of the Trustees, and subject to the approval of the Medical Health Officer.

(*l*) Where there is no Medical Health Officer, the Local Board of Health or their officers may have access to the earth closets for the purpose of inspection.

(*m*) If properly managed in many localities the contents of the excrement-boxes may be disposed of as garden or field manure, no offensive odour accompanying their removal and use in this way.

THE DRINKING WATER.

7. The drinking water used by school children should be analysed from time to time, and if found impure its use should be immediately discontinued.

CLEANSING OF FLOORS, WALLS, SEATS, ETC.

8. We would especially urge scrubbing of the floors at least once a week. Sweeping should always be done at night, the floors having been first sprinkled ; and the seats and desks should be dusted with a damp cloth on the following morning.

The desks, seats and walls should be kept scrupulously clean, the latter being brushed down with a moist brush or cloth weekly.

In addition to this, we recommend that all cracks in the floors should be filled up with putty. The floors should also be soaked with boiling oil several times until they become hardened. Hardwood floors are preferable.

SITUATION, LIGHTING, HEATING AND VENTILATION.

9. *School Site.*—The school site should be carefully selected on ground dry, porous and easily drained. When the school building is constructed on a clay soil, tile drains should be made in order to secure a dry condition of the basement. No water should be allowed to accumulate or stand under the floors, and a free circulation of air should be constantly admitted under the floors. In buildings of two or more storeys air should freely circulate under each floor. The site should be selected with regard to the lighting

and heating of the school. A building facing the south or south-east has an advantage in this climate as to heating and lighting :—1st. As to heating ; because the prevailing winds in winter blow from west and north-west, and the south-east front is consequently preferable. 2nd. As to lighting ; because the light entering from either the north or south side is most uniform during the day.

LIGHTING.

10. School rooms should be lighted by windows placed on the left side of the pupils. They may be lighted from two sides, viz., from the left and behind the pupils. Light should never be admitted in front of the pupils, nor from two opposite sides. The windows should reach from within four feet of the floor very nearly to the ceiling. The ceiling should be about twelve feet high. The windows should be about three feet wide, and the size of the windows collectively should be about one-eighth of the floor space. They should be hung with pulleys so as to be easily lowered or raised from the bottom. The admission of light should be regulated by suitable blinds.

HEATING AND VENTILATION.

11. During the cold season all schools in Ontario should be heated by steam, hot water or air warmed by a furnace.

12. A regulated system of introducing pure air into the school room and withdrawing foul air should in all cases be secured.

13. The Smead & Dowd system of heating and ventilating is the best, as far as we know, at present in use for school rooms, both in summer and winter.

14. In existing school buildings which have been constructed without a regulated system of heating and ventilation, the following methods may be adopted :—

(*a*) An excavation should be made under the building for placing a furnace, and provided with a suitable fresh air inlet.

(*b*) Outlets for the removal of foul air should be provided in each school room, preference being given to those which are so heated as to create a strong upward draught.

(*c*) These outlets should, in every instance, be carried up to the outer air, and should be made smooth internally by being constructed or lined with galvanized iron, zinc, tin, plaster or tile pipe, and provided with weather caps.

(*d*) In warm weather, when fires are not required for heating purposes, the outlets should be heated by a small stove, coal oil lamp, or other suitable contrivance, in order to create an upward current.

15. Any system of heating and ventilation which does not provide for an abundant ngress of pure air and a complete escape of foul air, is useless for purposes of ventilation.

16. If over crowding is permitted in school rooms they cannot be properly ventilated.

(Sgd.) H. P. YEOMANS, M. D.
J. J. CASSIDY, M. D.

REPORT OF DR. COVERNTON ON QUARANTINE.

To the Members of the Provincial Board of Health.

GENTLEMEN,—A few prefatory remarks on the general work of our Board since its first establishment, six years ago, will not, I believe, be viewed by you as unconnected with the special task assigned to me of reporting on the quarantine regulations and provisions now in existence at the station at Grosse Isle. Briefly, then, the object of the Board at the period of its inauguration and at present date has been to obtain a knowledge of how far the Municipal Councils of our Province had provided for the generals anitation of the inhabitants under their jurisdiction, and more particularly as to the means employed for due inspection and enquiries into the vaccination of children and re-vaccination of adults, when epidemics of smallpox were threatened; of the general precautions taken for due preparedness against possible advent of cholera; of investigations into sources of typhoid; into problems of causes of diphtheria and of the spread of this disease, as also of typhoid and scarlatina by impurities in the milk supply, or contamination of soil or drinking water; of the modes employed against infection by agency of reliable germicides; of the nature of the system of drainage, general and local, about the house and outbuildings, and of sewerage and disposal of sewage.

Needless to say that the work involved has been no light labour; it has been summarised in monthly reports, and more extensively detailed in our five annual reports, in which, year by year, the methods employed for educating the masses of the people have been described and opportunity afforded the readers of the same of judging how far the work has progressed.

There is no want of conviction on the part of members of this Board that a vast deal yet remains to be accomplished, but we trust we have reason for the belief that at least something has been done in the way of protecting the inhabitants of our Province from avoidable causes of sickness, as also in arousing Municipal Councils to a sense of the absolute necessity for granting far more advanced financial assistance for the well-being of the people than usually in the past has been most grudgingly doled out, as also something more nearly approaching adequate remuneration for the Medical Health Officers and Sanitary Inspectors by them employed.

With these few prefatory remarks, I pass on to the report proper on "The Quarantine System as it now exists at Grosse Isle." In the report I had the honour of submitting at the last meeting of our Board, I described the well-adapted position of this island for the purpose to which it has been devoted for the last seventy years, the admirable state of efficiency which Dr. Montizambert has, after an occupation of twenty-five years, succeeded in establishing; and, also, to the still further improvements this zealous officer has been reporting to the Dominion Government, as absolutely essential for placing the station in the very first rank for the accomplishment of the work assigned to him, viz., the exclusion of infectious disease so far as it lies within human effort by ocean steamers or sailing ships coming from Great Britain, Continent of Europe, West India Islands, South America or Gulf of Mexico.

In the successive applications for the additional requirements, Dr. Montizambert has placed before the Honourable Mr. Carling, the Minister of Agriculture and of Health, the opinions entertained and expressed at the various International Congresses held at Geneva, September, 1884, at the Hague in 1886, and at Rome (Italy) in January, 1887, by the delegates from the various governments of Europe and North and South America, of the application of dry and moist heat, of sulphurous oxide and bichloride of mercury, as being not only vastly in advance of the efficacy of previously reputed germicides, but also for obviating the naturally great objections to quarantine from the long delay involved, as the term implies, and as a consequence the very heavy loss and interruption to trade from demurrage, all of which would be obviated by the additions sought for, the time occupied in the work diminished to fewer hours than previously days, too often fruitlessly for the object sought after. Two years ago, when cholera was prevailing so extensively in India, Spain and Italy, the danger of the disease being imported to our shores, either directly or through the United States sea ports, was so forcibly impressed on the members of our Board that our Secretary, Dr. Bryce, was requested at the end of June, 1886, to visit the Grosse Isle station, and, finding additional enactments urgently required, he prepared an able and exhaustive report of the great national advantages there to be found for the complete isolation of the infected; also, pointed out the additions to be made for bringing this gateway of our Dominion up to a level with modern conception of what should constitute a perfect system of protection.

Last August I also had an opportunity of noticing the same necessity, and the impressions formed during a three weeks' visit I put on record in a report to this Board at its last quarterly meeting, as well as the anxious desire of the Honourable Mr. Carling, that every requirement should be as speedily as possible supplied.

These requirements at Grosse Isle—for two years successfully in use by Dr. Holt, of New Orleans—were by that gentleman most lucidly explained and illustrated at the convention of the

American Public Health Association held last November, at Memphis, Tennessee, and are the following: Extension of western wharf to a point that would give a depth of water sufficient at low tide for the largest steamship or sailing vessel requiring disinfection (say thirty-six feet), to be moored alongside of wharf immediately adjoining the quarantine wharf, and near its water edge a heavy framework of piles each twelve inches in diameter, the structure having an ample base, pyramidal in shape, and forty-five feet in height above mean level of the river. On the top of this a circular, iron tank capable of holding eight thousand gallons of mercuric solution. In the tank, near lower edge, three galvanized iron faucets, to each of which is screwed a lead of three-quarter inch rubber hose, further ends of which lie on the wharf and lengthened as may be required to reach any part of the largest vessel during disinfection, all three simultaneously used fore, aft and amidship.

2nd. For safety, when the wharf is sufficiently lengthened, the placing of the apparatus for evolving and supplying the germicidal sulphurous acid gas, with its battery of eighteen furnaces in a building at the end of the wharf, contiguous to the after hold of the ship to be fumigated. In rough weather, as I had an opportunity of witnessing last summer when on board the quarantine steamer, there is great danger of the melted sulphur escaping from the pans and setting the vessel on fire. The apparatus for the dry and moist heat also to be placed in a separate building near end of wharf.

3rd. For boarding ships in all weather, day and night, a very staunch and strong steam launch eighty to one hundred feet long and of breadth proportionate—the present steam launch, the Hygeia, being unsafe for the purpose in rough weather, the vessels to be examined lying out opposite Quarantine Station at a distance of at least three miles.

The approximate cost of these needed changes is, I believe, estimated at $120,000, which at first sight may be viewed as a very large sought-for grant, but we can, in the light of former knowledge of the cost of epidemics, reply that it would be only fractional compared with that which would ensue from the combatting of such a wide and long-continued one as the Province of Quebec was afflicted with three years ago, directly traceable to infection brought into our Dominion from Europe; and that, inasmuch as we have every reason for believing that during the present year there will be a larger emigration from Europe than ever before known, the members of our Board considered the question should be viewed far more from a sanitary than from a financial point, as with truth it may be said that there is no greater economy than the saving of human life and the protection of the inhabitants of our Dominion from the personal, social and financial embarrassments that would necessarily follow from an epidemic of either cholera, smallpox or other infectious disease, which, by the additional means asked for, might by the strict segregation of the infected and by the complete purification of baggage, cargo and ship furniture have been prevented.

As this question of cost might prove an obstacle to Dr. Montizambert's obtaining the aforesaid requirements for his station, it was suggested at our last meeting that Dr. Bryce should communicate with the Provincial Board of Quebec, and request that a deputation from their members should be appointed to meet with one of ours at Ottawa and solicit an interview with Sir John Macdonald. This was agreed to. The Chairman, Dr. Lachapelle, the Hon. Dr. Pacquet and Dr. McDonnell, the delegates from the Province of Quebec, and Dr. Rae, Chairman, Dr. Bryce, secretary, and the subscriber, from the Provincial Board of Ontario. On Tuesday evening we had the pleasure of meeting the Hon. Mr. Carling and two of our city members, Messrs. Denison and Small, and it was then arranged that we should ascertain whether we could some time the following day be received by Sir John. We were fortunate in finding him disengaged shortly after, and of being informed in reply to our request for an interview on the subject for which the deputation from the two Provincial Boards had met in Ottawa, that he thought he would be at liberty the next afternoon at four, but that after the morning Council meeting he could give a positive answer. The next day we received a note from him to the effect that the arrangement for 4 p.m. would stand, and at that hour the Hon. Mr. Carling introduced the members of the deputation, there also being present Drs. Bergin and Fissette, members of the Dominion Parliament, and Dr. Montizambert, Quarantine Officer at Grosse Isle.

APPENDIX

CONTAINING THE

ANNUAL REPORTS OF LOCAL BOARDS

IN THE VARIOUS

MUNICIPALITIES OF ONTARIO.

ANNUAL REPORTS OF LOCAL BOARDS OF HEALTH.

CITIES.

BELLEVILLE.

Medical Health Officer's Report.

As Medical Health Officer for the City of Belleville, I have the honour to submit my report for the year 1888 :—

At the request of the Board I had orders issued for the cleansing of yards and emptying and disinfecting of water-closets. The number of yards cleaned by personal order of the inspector was 250, hog-pens removed 9, water-closets emptied and disinfected 275, cess-pools closed and disinfected 6, closets removed, being too near dwellings, 7, wells cleaned 17, wells closed by order of Health Officer 4, water-closets changed to dry earth 10, dead animals buried 37. The Inspector made a house-to-house inspection of the city and reported to me its state, and when I considered it necessary I issued the regular notices (in all about ninety-six cases), which the Inspector saw were enforced.

I have during the year granted thirty-nine licenses to parties to sell milk in the city, making each seller sign an agreement to report to me any case of infectious or contagious disease in either their families or places of business, failure to so report resulting in forfeiture of license to sell. I would strongly recommend a license fee for selling milk to be imposed on all milk vendors, commencing on January 1st, 1889, when licenses must be renewed. I have examined the milk of a number of the vendors and found it fairly up to standard quality. In one instance the milk was adulterated with water to a large extent, and I warned the party. I again examined the milk some time after and found it all right.

The mortality from January 1st up to November 1st of the present year was 142.

I have had twenty-one cases of fever reported to me, the medical profession being divided as to its character, some contending it was malarial, while others said it was typhoid. The total number of deaths recorded from the disease was four. I have had one case of diphtheria and one case of scarlet fever reported to me, both of a mild character. We have reason to be thankful for the position our city holds in the total absence of those dread scourges, namely, diphtheria and scarlet fever, this being the third year that there has not been a death from either of those diseases recorded in either of the cemeteries.

I would again draw the attention of the City Council to the absolute necessity of drainage, and more especially that so many of the citizens are taking water from the water works. The greater part of the preventable diseases are caused in my opinion by want of a proper system of drainage, and bad water from the wells among the thickly populated places. The wells in dry seasons such as this and last year, were extremely low. The slops and other refuse from the houses, owing to absence of sewers, are thrown into the yards, and in some instances the water-closets are only a few feet from the wells. A shower of rain comes on and all the decayed animal and vegetable matter and filth with which the ground is saturated, find their way into the wells for the production of fever and other diseases.

A great want is in not having a proper system of scavenging for the city. I think the Council should license one or more scavengers to do the work.

Complaints appeared in the public press about the state of the river this summer; but what can the Board do in the matter, when both the county and city buildings drain into the river in direct violation of not only the Public Health Act, but the city's by-laws ?

When attempting to prosecute private individuals, we were met with the sneer that we should make the city carry out its own by-laws before prosecuting private individuals for doing what the city had done for years.

I have again drawn the attention of the Provincial Board of Health to the sewage of the Deaf and Dumb Institute, but nothing has been done so far. It is now over a year since the matter was brought before the Provincial Board, and in a case of such vital importance to the well-being and health of the inhabitants of this city, it should have been in my opinion attended to before this. I may say that I stated in a communication to the Board, that should our water system become contaminated with sewage from that source, the city would hold the Board responsible. I think it would be well for the Council to take some action in the matter at once.

R. TRACY, M.D.,
Medical Health Officer.

BRANTFORD.

Medical Health Officer's Report.

I have the honour to present the following Report for the City of Brantford for the year ending October 31st, 1888 :—

The number of deaths within the city limits during the year was 220, being at the rate of 16¼ per thousand in an estimated population of 13,500. The death-rate in 1887 was the same. The Brantford death-rate appears to be a little below the average rate of Ontario cities and towns.

Of the 220 deaths in this city, 96 were of children under five years of age, and 31 of persons over seventy years.

The deaths from the principal zymotic diseases are as follows :—From typhoid fever thirteen as compared with eight deaths last year; diphtheria 8 as compared with 19 last year; croup 2 as compared with 3 last year; scarlet fever 2 as compared with 9 last year; measles 1 as compared with none last year; whooping cough 5 as compared with 1 last year, and from cholera infantum and diarrhœal affections 26 for 23 last year.

The eight deaths from diphtheria represent one in every 1,680 of the population. The average in the thirteen Ontario cities was one in every 920.

Scarlet fever has prevailed to some extent; fifty-nine cases were reported to the Board of Health, and two deaths occurred.

Every possible precaution has been taken to prevent the extension of scarlet fever, diphtheria, etc., in the schools, by rigidly excluding all children coming from houses where the diseases were known to exist.

The Board has supplied the schools with blank forms for notification of disease, and during the last six months fifty-seven notices have been received from the East Ward School, twenty-five from the North Ward School, sixteen from the Central School, four from the King's Ward School, and one from the Separate School. It is, therefore, obvious that while this important duty has been faithfully performed in some of the schools, in others it has been much neglected.

During the half year 137 notices were sent to the free library, requesting that books be not delivered to persons from infected houses, and that any books returned from such houses be withdrawn from circulation until they shall have been examined by the Medical Health Officer. Under this regulation fifty-six volumes were withdrawn from circulation. Of these, twenty-seven volumes were restored to circulation, it being clear from the known facts that they were not infected, and twenty-nine volumes were removed to the Health Office. Those of small value and which have been handled by patients with diphtheria and scarlet fever, it is proposed to destroy, others may be returned to the library after disinfection. Fifty-six cases of typhoid fever were admitted into the John H. Stratford Hospital, of whom seven died; a large number of the cases admitted were of great severity, several dying within a few days after admission. Six deaths occurred outside of the hospital, and it is safe to assume that not less than seventy cases of the disease were treated external to the hospital, showing not less than 126 cases of genuine typhoid fever. This is a large number, and the number of deaths, about one in 1,000, shows a large death-rate from that disease. The causes of this undue mortality from typhoid are not far to seek. Bad water, and the total absence of any kind of sewerage are the obvious causes.

A very large number of wells are badly contaminated; and repeated examinations have shown that the city water obtained from Wilkes' creek, which serves the purpose of an open drain, is of a better quality than that of a large proportion of the city wells. As the construction of the new water works is now in progress, it may be fairly expected that when these are in operation, and the use of water from bad and doubtful wells is discontinued, the causes of typhoid fever (as well as of much other sickness), will be in a large degree effectually removed.

The other principal cause is the absence of sewerage. The saturation of the soil during twenty-five to fifty years in the older parts of the city, by liquid refuse, has poisoned the ground, and not only defiled the wells but contaminated the air in and about our dwellings. It is much to be feared that typhoid fever, diphtheria, and other zymotic affections, notwithstanding the acquisition of a good water-supply, will not diminish but will rather increase, unless the sewerage question is promptly dealt with.

Besides its general importance there is a special need for sewerage in relation to manufacturing establishments, on which the business of the city so largely depends.

Brantford is exceedingly well situated for establishing sewerage, on the separate system, at a comparatively small cost; and this work is of such importance in relation to the value of real property in the city, which value must certainly be increased at once far beyond the cost of the works, that aside from the question of health it should receive the warm support of every property holder in the city.

The work done in sanitary inspection during the year has been very large and has been exceedingly well done. The Inspector's books show that 1,207 house-to-house inspections have been made, exclusive of inspections of dairies, slaughter-houses, soap works, etc. So far as the reports show, this is two or three times as great a number, in proportion to population, as have been made in any other city in Ontario. Three hundred and twenty-nine complaints were entered in the complaint book, all of which were dealt with as well as was practicable. Four hundred and fifty privy-pits were emptied during the year. Seventeen prosecutions for various breaches of the Health Act were entered, and convictions were secured in every case, fines being imposed to the amount of $77.85.

At the February meeting of this Board a resolution was passed directing the total abolition of all remaining privy-pits in the Queen's Ward and the substitution of dry-earth closets, the work to be carried on as rapidly as possible. Three years ago the number of these pits in this ward was nearly 400; at the time of the above order there were about 260, and the Inspector reports that only ninety-seven now remain. In every case the pits were cleaned and filled up with fresh earth. As more than 100 new dwellings have been erected, in all of which the dry-earth closets have been adopted, it is estimated that 325 new dry-earth closets have been established during the year. That so much has been accomplished in face of considerable difficulties must be regarded as very satisfactory.

The dry-earth system, which has now come into use to such a considerable extent in this city, has, wherever it has been properly regulated, given good satisfaction. To a certain number, however, it has been by no means satisfactory, although there are very few, if any even of these, who would advocate a return to the old system. The public cannot be expected to be satisfied with this system, or with any system, unless it is well managed.

In those parts of the city where the grounds around dwellings are limited and where sewerage is necessary, on account of the impossibility of otherwise disposing of liquid refuse, water carriage may hereafter be substituted for the dry-earth system, by those who may desire it; but for those localities where it is applicable, the dry-earth system will still prevail, as when properly managed it is no more disagreeable or troublesome than the water carriage system, and is superior to it in safety and economy.

The chairman referred at the February meeting of this Board to the garbage question, and urged the necessity of the systematic removal of garbage being undertaken as a public work.

In some places this work has been undertaken by the Boards of Health, but the increased expense of a separate service for the work is very considerable, and it can be managed with great efficiency and at much less expense in connection with street cleaning and other city work. The many important and difficult matters the City Council have had in hand this year have caused consideration of this matter to be deferred, but it is one of such necessity that some measure dealing with it should be introduced without further delay.

The milk supply of this city is furnished by twenty-five dairies, nearly all situated in the township. The number of cows reported on July 1st, was 357, and the daily supply 2,277 quarts.

All the dairies were inspected in March by the Sanitary Inspector, in company with Veterinary Surgeon Stewart, with fairly satisfactory results; several of them have been inspected a number of times during the summer and autumn.

Samples from all the dairies have been tested twice, and from several of them three or four times. The results of the earlier tests were to show the milk in the majority of cases poor, comparing unfavourably with samples of whole milk taken personally by the Medical Health Officer and Sanitary Inspector from several creamery herds and private herds in the township. Later tests showed considerable improvement.

It is intended, with the approval of this Board, that the work of inspecting dairies, testing samples, and publishing results shall be continued as frequently as possible, having regard to the labour involved and the limited time at the disposal of your executive officers. Milk forms but a relatively small part of the diet of most persons in ordinary health. For the sick, on the contrary, it is often the main dependence, and especially for fever patients. For the former class the quality of milk is very important, but for the latter class, often living exclusively on a milk diet for many weeks, it is a matter of life and death. For these unfortunate sick it is, therefore, specially imperative that the milk should be as nearly perfect as possible. It should be derived from perfectly healthy cows of good breeds; the cows should be kept scrupulously clean in perfectly clean stables; they should be fed on the most suitable foods of the best quality, and be supplied with pure water.

So far as the John H. Stratford Hospital is concerned, it is gratifying to know that the governors fully realize all this, and that they propose, with that commendable solicitude for the welfare of the patients which they have always shown, shortly to provide that institution with a dairy of its own, being satisfied that that is the only certain way of securing for it a supply of perfect milk.

In concluding this partial report of some of the principal matters which have engaged the attention of the Board of Health during the past year, I wish to mention the especially active interest the Chief of Police, as one of its members, has taken in its work. Owing to his position this has been of great service, enabling us to do many things easily and cheaply which would have otherwise been difficult and expensive to accomplish.

EGERTON GRIFFIN, M.D.,
Medical Health Officer.

GUELPH.

Medical Health Officer's Report.

I have the honour of submitting the following report upon the sanitary condition of the City of Guelph, for the year ending 31st October, 1888, in accordance with the Public Health Act, 1884:—

No epidemic visited the city during the year. The total number of deaths during the year has been 189. Taking the population of the city at 10,173, according to last year's assessment returns, it places the death-rate at 18.5 per 1,000; and taking into consideration the large number of people from the rural districts who came to the city to avail themselves of its hospital, this, I consider, is an exceedingly low death-rate, and speaks well for the sanitary condition of the city. Of the infectious diseases, 175 cases of diphtheria were reported at the Health Office, 17 cases of which proved fatal. Of scarlet fever only two cases were reported, and no deaths. The inspection of milk and cow-byres during the year, in accordance with the by-law, has been carried out, and has resulted, from what I can learn, in a marked improvement in the quality of the milk. During the year thirty-one permits to obtain licenses to sell milk have already been given, subject to cancellation for infraction of the by-law.

I regret very much that the by-law for extending the water mains in the city during the past year was defeated, as the wells are so liable to contamination from surface drainage, pollution through the soil from water-closets and other sources, that I am afraid a very large number of the wells in this city are totally unfit for use. During the past summer a great many complaints have been made with regard to the bad smell of the river, between the Eramosa and Allan's Bridges, owing to the water being used by the Electric Light Company causing the banks of the river to be exposed all day to the heat of the sun. The matter was brought to the notice of the Board of Health, and some members expressed their opinion that a great deal of the bad smell from that part of the river was due in a great measure to the filth running from the Alma Block and other places along the river, and the Sanitary Inspector was instructed by the Board to notify all parties running nuisances into the river to stop it at once, and in the event of his instructions not being carried out, to instruct the city solicitor to take action; and the Sanitary Inspector informs me that all the persons whom he notified acted promptly. I also gave instructions to have the river cleaned from rubbish, which had accumulated near Allan's bridge, and no less than twenty-five dead animals were found amongst it. Since the cesspools have been shut off and the river cleaned, no complaints have been made.

I would again call your attention to that part of my last report where I strongly recommended that a system of removing the garbage from the city should be adopted. A scavenger under the instructions of the Sanitary Inspector should be employed and the garbage removed at least twice a week in summer, and once a week in winter, and the whole cremated. During the year the Sanitary Inspector confiscated four loads of beef, three loads of pigs and four baskets of fowls, as being in his opinion unfit for human food.

I have written to the chairman of the Board of Education, requesting him to make it compulsory that all children attending the public schools should show a certificate that they had been vaccinated, and I trust that this will be carried out. All the medical gentlemen in the city have been supplied with blank forms for that purpose.

The Sanitary Inspector reports the following work done during the year, which I consider large:—

Number of yards examined	272
Number of water closets emptied	186
Number of yards found in good condition	184
Number of hog-pens removed	15
Notices served for dirty yards	43
Number of old wells cleaned	3
Analysis of well water	6
Dead animals buried	115
Complaints made at Inspector's office	142
Number of houses placarded for contagious diseases	177

The Sanitary Inspector has performed his duties to my entire satisfaction.

THOMAS A. KEATING, M.D.,
Medical Health Officer.

HAMILTON.

Medical Health Officer's Report.

I have the honour to submit my annual medical report of the sanitary condition of the city for this year, ending on the 31st October.

There were 553 cases of contagious diseases reported by physicians to the Health Department and 64 deaths, a list of which may prove interesting.

	1888.	
	Cases.	Deaths.
Diphtheria	163	49
Scarlatina	173	3
Typhoid Fever	127	12
Measles	68	..
Whooping Cough	22	...

There are 42 cases less of diphtheria than in 1887; the deaths are, however, 18 in excess. Typhoid fever would appear to be on the increase, but many of the cases reported did not present the usual characteristics of enteric fever. Several premises where this disease was reported from were examined, the conditions found were similar to those mentioned in last year's report. Scarlatina cases number four less than in 1887; a few cases had not been reported. Complaints having been made the delinquents were summoned for neglect to do so, but owing to the conscientious scruples of some of the witnesses in giving evidence, there was no conviction. There was only one case of obstructing the Inspector in performing his duty. The parties implicated were fined by the Police Magistrate.

The rule agreed to by the medical profession not to give certificates of fitness to attend school in cases of contagious disease until one month had elapsed since the last case occurred in the house, is so badly observed that the effect is to propagate disease.

The mortality for the year numbers 729. Taking the population at 44,000, the death-rate is 16.5. The highest mortality occurred in the months of May, July and August, numbering in order, 71, 87 and 74. This statement is confined to deaths occurring within the city limits. A good many burials take place in our cemetery from the Township of Barton, which, of course, are excluded, as we cannot avail ourselves of its population in taking the death-rate. It is almost needless for me to say that the three health officers under my own immediate observation have been diligent and effective in the performance of their several duties. The fewer complaints made this year about the removal of garbage would indicate a better working of the scavenger system.

With reference to the inspection of plumbing, this work received particular attention at the time of the house-to-house inspection made by Inspector Peacock, as the books of inspection will verify. In many instances plumbing and sewer connections were found to be very imperfect; untrapped sinks and leakages were numerous; water closets were in some instances badly located, and the pattern of such kind as permit the escape of sewer-gas. Ventilation was also badly provided for, and the water supply for flushing often so scanty as to be next to useless. All those errors were remedied as far and as quickly as possible. Those defects were apparently due to cheap work, and probably also to inexperienced labour. Cheap work in plumbing and sewer connections is to be deprecated, but extortionate charges should be guarded against. The bad sewer connections which have recently come to light, must have been put in previous to the inspection referred to, and such bad work will turn up from time to time. There is little doubt but that any ordinary inspector will be able to detect flaws enough to be remedied during the next quarter of a century. What seems to me to be particularly necessary is, that in all buildings to be erected the plans of sewer connections and plumbing should receive the written sanction of the Inspector. I would respectfully suggest to your Board—it being your province to see that proper provision is made for carrying out the clauses of the

Health By-law in relation to buildings—that although the appointment does not rest with your Board, it would conduce more to the interests of the city to appoint an assistant inspector of buildings, whose duties would combine the experience of a plumber, a knowledge of the proper connection of sewers with buildings, and of all such matters as pertain to sanitary and other regulations in connection with the inspection of buildings. That such an office should be a department in itself, and distinct from the Health Inspector's office. I have occasionally noticed the want of such a department where records could be kept to meet the requirements of the Health By-law, and I am fully convinced that such an office presided over by your Building Inspector, and an assistant qualified for the position, would prove a convenience and more of a public benefit than the establishment of the office of plumbing inspector alone.

I would also bring before your notice the very inefficient clause of the by-law relating to earth closets and their management, and suggest to your Board the expediency of amending it. The system is both theoretically and practically sound, provided that regulations are made to enable it being properly dealt with.

I beg also to report that according to instructions from your Board, I visited the cities of New York and Boston last June and made enquiries into the system of inspection and methods of testing the quality of milk in both cities. All the information that could be desired was cheerfully given, and I was not even asked for my credentials, which I carried in my pocket.

It would take too much space to enter minutely into every particular connected with it, and I will be as brief as possible. In New York the inspection of milk is extensively carried out. There are eight medical inspectors doing daily duty; each of them is required to examine 200 samples and report weekly. One of them is detailed alternately for morning duty to inspect milk direct from the waggons; the beat for each inspector is arranged at the head office. The Inspector is met at the appointed place by a policeman, whose duty is to stop the waggons as they appear. None of them attempt to evade him. The Inspector takes the sample from the vessel himself and examines the specific gravity with the New York Board of Health Lactometer; he then takes the temperature and corrects the specific gravity at 60° Fahrenheit. All milk which does not register 95° on this Lactometer, and which does not also bear inspection derived from its colour, taste and odor, is confiscated and consigned to the nearest sewer. I saw forty quarts so disposed of one morning. It seemed to me very summary punishment, but the case did not end there, as the driver having the milk in his possession at the time was held responsible, as well as the party to whom the milk was consigned. Both were summoned before the District Court. I did not hear what the result was, but was informed that the fine would not be less than $50.

In Boston there are three inspectors of milk (not medical men). It is their duty to collect samples and bring them to the office of the city analyst. All samples are there examined with the Fesor Lactoscope, and when found necessary are subjected to a minute analysis. The Lactometer used here gives the specific gravity direct, which is corrected by the temperature at 60° Fahrenheit. Both cities have no jurisdiction outside of their respective limits, so that the person having the milk in possession with intent to sell, is held as the responsible party. I received a lot of literature from both offices on the subject of milk, and also from the State Board of Massachusetts.

I expected to have got further information on the milk question at Portland, that city being in the land of prohibition. On enquiry, however, I was informed that the milk supply was generally good, and seldom required official examination—that there was no extra demand for the supply.

I received also a good deal of information from Mr. McFarlane, Chief Analyst of the Inland Revenue Department at Ottawa, and have followed out the directions of circular No. 2, issued by the Department.

The system of inspection carried out in Boston is more suitable for our Health office than that of New York. The latter, though very efficient, is very expensive, but the people get good value for it.

The three grades of milk arranged by the Dominion Government, I presume, are intended to show to what extent whole milk may vary in quality, and that all percentages of fat above the highest and lowest grades were due to adulteration. Milk showing a percentage of fat over 4.75, would have an undue amount of cream, a form of adulteration that few consumers would object to. If the dealer can sell milk at the lowest Government average, namely, 3.50 per cent. of fat, we want no other standard for our office. If the dealer gives a better grade he will get credit for it.

The percentage of butter fat can be very accurately arrived at by means of the Fesor Lactoscope. Professor Babcock, of Boston, has shown from a series of comparative examinations, that in ordinary samples of fresh milk, (such as we get at the Health Office), it gives the percentage within one-quarter of one per cent. of the correct figure, as shown by chemical analysis. I have invariably allowed more than that in addition to the reading of the lactoscope, so that in nearly all cases the dealer must have been getting more than full value for the quality of the milk than he would get from a chemical analysis. The total amount of solids in milk can also be ascertained by calculation, according to the specific gravity taken at 60° Fahrenheit, and the amount of fat as shown by the lactoscope.

From my own experience, having tested a large number of samples, I am perfectly satisfied that the percentage of fat should not be lower than 3.50; even that admits of higher grades being reduced to that standard, and any dealer who wants a lower standard, in fact wants no standard. Not long since I examined four samples of milk taken from four different cows, which were brought to me *direct* from them by the dealer; none of the samples gave over 3 per cent. of fat. That very day your inspectors brought me four separate samples direct from the same cows, and each of them gave a good 3.75 per cent. This fact will give you an insight as to how the milk trade can be conducted.

It has been remarked that the public health Acts were enacted solely with reference to health. This is in the main correct, but it was never intended to be so construed, nor does the Act read so, that trade should be allowed to conflict with health and have full sway to the injury of the latter. The relation between health and trade is so intimate as regards the milk supply, that you cannot separate them with consistency, and you cannot tell now how many untimely deaths have been caused by the want of a good by-law regulating the sale of wholesome milk. Such a by-law has met with the approbation of your Board, and its ratification by municipal authority is earnestly desired. No honest milk dealer could object to it, and the sooner the dishonest man knows that he has to discontinue the trade, the better for the general public. Poor and rich are equally interested.

I. RYALL, M.D.,
Medical Health Officer.

KINGSTON.

Medical Health Officer's Report.

I have the honour to submit the following report upon the sanitary condition of the city for the year 1888:—

It gives me much pleasure to state that the sanitary condition of our city has been for the past year very favourable. We have, however, to some extent suffered from diphtheria and typhoid fever; the death-rate has been comparatively small from the latter disease. These affections are attributable principally to defective drainage of houses and the use of bad well water, which I trust may be overcome now that we are obtaining a perfect system of water works, with cheap water rates; and, I trust, added thereto we shall have a filter of the best maker.

Milk.—I regret to report that our Local Board has not as yet taken any definite action in reference to our milk supply. This is one of the necessary sanitary matters which requires to be looked into, milk being the chief nutriment for invalids and infants. Other cities have taken necessary action in dealing very definitely therewith, considering it of paramount importance.

Slaughter Houses.—The Sanitary Inspector and myself inspected all the slaughter houses both in and out of the city, according to the requirements of the Statute, and found them most generally favourable.

Sewers.—Now that the council is making such rapid progress in the completion of the main drains to the outermost parts of our city, would it not be well to take into consideration the building of one grand trunk sewer, and thus convey all the filth that may be emptied therein to one common port or receptacle, to be then carted away unto the land to enrich the soil and prevent the contamination of our water front?

Dry Earth Closets.—During the past year the number of these receptacles has greatly increased, and with a little closer attention on the part of the city scavenger (who is not sufficiently remunerated), thereby removing the cause of complaint, we might be enabled to convince many, whose premises are so situated as not to admit of a privy vault, to enlist them in the scheme, which is far ahead of the vault system when properly constructed and attended to. In attending to the details of the many complaints laid before the sanitary inspector and myself, we must return thanks to the chief and police force for the very efficient and satisfactory manner in which they have, upon all occasions, assisted in the proper carrying out of the law.

Sanitary Inspector's Report.—During the year the sanitary inspector issued 531 permits to open and clean out privy pits, from which 5,045 barrels (of 40 gals. each) of night soil were removed and deposited upon the nuisance ground; 163 dead animals were removed from public streets, etc.; 468 notices have been served on parties to abate nuisances, of which 291 were for filthy privy-pits and 177 for dirty yards and cellars.

The following table will show the number of cases of contagious diseases reported, and the total number of deaths for the year :—

——	Diphtheria.	Scarlet Fever.	Typhoid Fever.	Typhoid Malarial.	Measles.
Number of cases	35	6	34	9	12
Number of deaths	9	....	5	....	....

In closing this report, I hope that the Local Board of Health will meet more regularly in future, and thus give its moral support to its officers in the carrying out of all sanitary measures.

S. H. FEE, M.D.,
Medical Health Officer.

LONDON.

Medical Health Officer's Report.

I have the honour to present the following sanitary report of the city of London for the year ending November 15th, 1888 :—

The health of the city during the year has been exceptionally good. There were 438 deaths, as compared with 455 last year. Estimating the population at 27,000, places the death-rate at a fraction over 16 in the 1,000, as compared with 17.16 last year. Comparing this with the death- rate of the twenty-six cities making mortuary returns to the Dominion Government, it is found that these cities and towns had an average death-rate for the year of 23 in the 1,000. The average death-rate in seven Quebec cities was 31 in the 1,000, and the average in 13 cities in Ontario was 17. Of the 438 deaths in the city this year, 181, or over two fifths, were under five years of age. Thirty-six reached the allotted three score and ten. Eleven attained the age of eighty, six of eighty-five, one of ninety-two, two of ninety-three and one of ninety-four. The largest number of deaths occurred in December and January, which had 51 and 44 respectively. June, which is invariably the healthiest month, had only 24. The deaths from zymotic and preventable diseases were as follows: Of diphtheria, there were reported 53 cases, six being sent to the city hospital, and 15 deaths. Of typhoid fever, there were 18 cases reported, 19 sent to the hospital, making 35, and 8 deaths. Thirteen cases of scarlet fever were reported, and 1 death. Consumption carried off the large number of 44, and cancer is credited with 15.

Some provision should be made for extending the trunk sewers so far into the river that their mouths will always be under water. A few lengths of 18 or 24-inch iron sewer pipes continued from the end of the sewer would answer the purpose well.

Although smallpox prevailed during the summer in Buffalo, Detroit and Sarnia, and to some extent in Toronto, it fortunately did not reach London. Orders were issued by the Assistant-Superintendent, Mr. Larmour, to the railway officials at the Bridge, Fort Erie, Windsor and Sarnia, to keep a careful watch and prevent, as far as possible, suspected persons entering from the east or west by trains.

The river should always be kept at the same depth. When this is not done, every time the water is lowered the alluvium deposited along its banks is exposed to the heat and air, creating malaria. Keeping the river always at the same depth should not interfere with the efficient working of the water-works machinery, for, as the water at the drain is lowered, the force exerted against the two turbine wheels is proportionally less, and more water is required to work the engines up to the same power—a useless waste of water.

The river is thus lowered five or six inches. When the banks are steep this matters little, but when the water is shallow, which is the case from Kensington Bridge to the Cove, this fall of a few inches means the periodical exposure of hundreds of square yards of residuary deposit to the action of the air and sun.

The need of a sanitary inspector of house plumbing is becoming more and more a necessity in the interests of the public health. Much of the house plumbing done in the city is of the worst description. This is not so much the fault of the plumber as of those who build houses to let, and then have the plumbing done as cheaply as possible, without any regard for the safety of those who will occupy them. Some of the house plumbing done in the city is so bad that a more effectual means of giving the inmates typhoid fever could not be devised. Toronto and some other cities of the Dominion have taken steps to remedy this evil, by appointing experienced sanitary plumbers as inspectors, whose duties will be to exercise a wholesome supervision over cheap slip-shod plumbing.

Milk Supply.—Ninety dairies have been inspected, and 147 analyses of milk made since 1st of January. Fifteen of these samples were taken from fifteen herds in my presence, the cows being milked out, the whole milk well mixed, and a sample taken. The quality of milk being estimated by the percentage of butter fat it contains, the other solids, such as albuminoids, milk, sugar and ash, are not given in this report. Of these fifteen samples of whole milks, the percentage of butter fat ranged from 2.15 to 2.12, only one sample, however, being below 3.17; and the average percentage of butter fat in the whole fifteen samples was 3.73. Of 162 samples of whole milks taken from herds from Halifax to Toronto last year by Mr T. McFarlane, Chief Analyst of the Inland Revenue Department, and analyzed by him, the total average of butter fat in the whole 162 samples was 3.86 per cent., and he, therefore, recommends that, in case the Government establish a standard for the Dominion, it be not less than 3.50 per cent. Although the quality of the milk sold in this city has greatly improved in the last six months, and no doubt will continue to improve, still, this standard, for the present at least, appears to be too high; and in the event of this Board establishing a standard for the city, I would recommend that it be not less than 3.25 per cent. of butter fat. The by-law requiring the inspector to have all milk wagons duly numbered and the owner's name has not been complied with, except in a few instances, and gives rise to trouble and confusion.

T. V. HUTCHINSON, M.D.,
Medical Health Officer.

OTTAWA.

Medical Health Officer's Report.

In laying before you this my annual report for the year ending on October 31st, 1888, I am pleased to record the fact that notwithstanding the inauspicious outlook at the beginning of the period comprised in this report, the mortality for the past twelve months is very little in excess of that of the previous year. One of the reasons of this excess has been an epidemic of typhoid fever, such as Ottawa has never before experienced. This disease, a few cases of which developed earlier in the summer months than usual, suddenly invaded the whole community in the second week in November last; though mild in type in the large majority of cases, the extensive prevalence of the disease naturally caused much anxiety, and a great deal of speculation as to the evil influences which had been productive of such deplorable results. Fully conscious of the gravity of the situation, your board deemed it desirable to demand the assistance of the Provincial Health authorities to investigate and help us, not only to get over our present difficulties, but also advise as to the measures to be adopted to prevent a repetition of the same.

The investigation through events unavoidable was delayed, although this request made in the first week of December last, and as a consequence the investigation did not then prove as satisfactory as if made earlier in the season. However, all was done under existing circumstances that could be done to throw light on a question surrounded with so many difficulties as the causation of this epidemic; and the conclusions reached as a result of the labour of this commission, as reported to your Board, are evidently in support of the following views:—

That whatever part may be attributed to general influences beyond the control of health authorities, it being a recognized fact that protracted droughts, and the evil effects of the unusual condition of things created thereby, pre-dispose to, and are often followed by, typhoid fever, there were reasonable grounds to suspect that our water was an active agent in the distribution of this disease in the epidemic of last fall. In support of this view may be given the following reasons:—

1st. The admitted fact, by all those whose opinions on such matters are worth having, that in the history of all such epidemics, in eighty-five cases out of a hundred, water is the medium through which the disease is spread, hence the saying—pure water, no typhoid.

2nd. The suddenness of the onset of the disease in last fall's epidemic. Typhoid, which could scarcely have been said to have been more prevalent than usual at that season of the year up to the second week in November, suddenly, within the space of ten days, overspreading the whole city.

3rd. The extent to which the disease prevailed, there having been about 1,500 cases in the city and surrounding suburbs. There are other reasons which will be cited hereafter in this report, when on the subject of our water supply. It is pointed out, also, on the other hand, that want of drainage, or improperly made private drains, or defective plumbing and modern conveniences within the dwelling houses, are all pre-disposing to, and, to a certain extent, factors in, the development of such diseases. That in a number of instances during the epidemic of last fall, such evil influences were at work is readily admitted as not incompatible with our present state of knowledge, nor yet misrepresenting the condition of many houses in our city.

To what extent typhoid fever contributed to increase the death-roll of 1888, will appear in the mortuary returns for this year, and from a comparative table of deaths from the same cause for the four previous years. Another cause of this increased mortality has been the prevalence of diphtheria throughout the year. This disease, in the large majority of cases, originates from the evil effects of bad drainage and plumbing, though its chief work of propagation is by personal infection, against which, proper isolation is the only reliable means of safety. Apart from these, few other diseases looked upon as preventable, prevailed to any extent during the year, with the exception, perhaps, of cholera infantum, and other diarrhœal affections among infants, chiefly during the month of July last. These, though to a certain extent due to what is commonly called malaria and other atmospheric influences, in my opinion, are largely the result of gross ignorance or reckless negligence on the part of parents to care for their offspring during the first two or three years of their existence.

Hospitals and Isolation of Contagious Diseases.—The hospitals for the isolation and care of contagious diseases have been maintained throughout the year on an efficient footing; and the requirements of the law as regards the notification of the existence of any such cases, their isolation and other precautionary measures essential to the public welfare, are now better understood, and after much vexatious battling against prejudice and stubborn opposition, are more readily complied with. The legal prosecutions instituted to enforce the law in such cases, should convince the public of the sincerity of our purpose, whilst the results obtained should inspire confidence in the measures advocated. For I may safely say, that it is due to the constant vigilance and prompt action of this department as regards such cases, that this city, during the last six months, was not overrun by an epidemic of diphtheria twenty-fold more terrible in its fatality than the epidemic of last fall.

Our Water Supply.—The purity of our water which, up to last fall, had never been questioned, then became doubtful, for the reasons above given in connection with the causation of the disease then prevailing. Another reason throwing some doubt on the purity of our water, and tending also to connect it with the cause of last fall's epidemic, were the characteristics of the fever as relates to its fatality; the death-rate having scarcely reached three per cent. of the total number of cases.

This, it is contended, points to a contamination of our water with vegetable rather than with animal organic matter; a fact which seems also pretty clearly demonstrated by the different analyses to which it was subjected.

It is evident, at all events, that so far as it relates to the causation of specific diseases, the quality of the pollution is the essential knowledge sought, and not the quantity; that the chemical analysis of water will not determine the presence or absence therein of specific germs, whilst the different conclusions reached by analytical experts in the analysis of the same water, are calculated to throw much doubt on the reliability of such processes or methods to determine the wholesomeness or unwholesomeness of water. Then another circumstance, which, even to the casual observer, is not calculated to impress one with the belief that our water is above suspicion, are the surroundings of the inlet of our water supply. However, this important question is still being investigated, and no doubt that when convinced of their necessity, and satisfied as to the best means to be adopted, nothing will be left undone to effect the needful ameliorations to secure purity in this necessary of life.

Our Schools.—It is a matter for public congratulation to note the progress made in some of the schools of this city during last year as to their mode of heating, ventilation and closet accommodation. Not only is this noticeable in the newly erected school houses, but in others also, where, regardless of expense, the requirements of hygiene have been complied with in this respect. Others which have not yet reached such a standard of hygienic perfection, it is to be hoped will soon emulate this praiseworthy example, and do away with the defective systems made to do service up to the present.

Scavenging.—The removal from the household of waste matter, such as kitchen refuse, and ordinary garbage as often as needed, more especially during the summer season, has been very frequently a cause of annoyance, and not unfrequently a source of danger to the well-being of the community, whilst the proper disposal of the same has been to the health authorities a source of anxiety and trouble.

This matter, which all recognize as very important in a sanitary point of view, and which has been time and again in one way or another brought to the knowledge of your Board, last year engaged the attention of the municipal authorities more than usual, and the erection of a cremating furnace had been contemplated.

This mode of disposal of such matter is no doubt effectual, whatever may be said of its economic value, but, in my estimation, it is not for our present needs an indispensable necessity. With a properly organized system of scavenging under the control of the Board of Health, there is no reason why such matter could not be disposed of in a much more economical way for some years to come without endangering public safety.

Such a system has been adopted with very satisfactory results, for instance, in Hamilton, a city which, so far as extent of territory and population, has about the proportions of Ottawa, and I have no doubt that some such system could be carried out here with advantage. At all events, the public requirements in this respect are such as to make it imperative that some such scheme be devised, and no doubt this question will early engage the attention of the municipal authorities of next year.

Removal of Night Soil.—I can safely say, as regards the work of emptying privy vaults, details of which are fully given in the Sanitary Inspector's report, the public requirements in this respect during last year, were more satisfactorily attended to than ever before during my term of office. This work is done by contract, by the pail and barrel system, is supervised by two assistant inspectors, and the matter removed is deposited on farms as a fertilizer. This mode of disposal, when properly effected, in my estimation, offers no special objections in a sanitary point of view, whilst it is a material benefit to the parties so utilizing it.

Abatement of Nuisances.—The number of premises visited during the year with a view of causing the removal of unsanitary conditions complained of or otherwise detected, whether due to want of or imperfect drainage, defective plumbing, or otherwise caused; and the number of prosecutions instituted to enforce the regulations of this department in such matters, as detailed in the Sanitary Inspector's report, are evidence that during the past year the work of this department has been pushed with all the facilities at our command. In fact, so far as individual improvements are concerned, the past season has been one of marked progress in sanitation. It is to be regretted, however, that owing to the dilatoriness of the municipal authorities to carry out the recommendations of your Board, as regards the construction ot subsidiary drains on a certain number of streets in this city, this department has been powerless to improve the unhealthy condition of many dwellings and premises thereon. Next year's council will no doubt give the matter a favourable consideration, and the work of construction pushed on early next season, with all the rapidity due the importance of such sanitary improvements.

The construction of a sewer in Canal Street to connect Lewis Street drain with the main sewer, which is now being made, is worthy of special mention as a work calculated to afford facilities for the proper drainage of a large section of the city. Whilst on this question of drain-making, I cannot too strongly urge the indispensable necessity of the careful supervision of such works, the vital importance of which, to the well-being of the community, is second only to plumbing. The benefits to be derived from the appointment of a person of undoubted competency to superintend the proper making of such works, whether private or public, in all its details, can only be calculated by the amount of evil they are productive of when improperly done.

Vaccination.—The law requiring parents or guardians to have children vaccinated has been of little effect during the last year; few vaccinations were made. In fact, nothing less than an epidemic of small-pox will cause the public to wake up to the necessity of availing themselves of this preventive measure. It is fortunately true that we have had no small pox here for some time past, but its presence in several localities of this Province should be a sufficient incentive to be prepared before it is too late, for we cannot foretell how soon it may be among us.

Inspection of Dairies.—The law, so far as it relates to the inspection of dairies and the licensing of milk vendors, has been carried out last year to the extent of our possibilities; I am forced to say, however, that owing to circumstances beyond our control, this matter has not received all the attention it was our intention to give it. The fact is, the public requirements as regards this and other duties devolving on the Sanitary Inspector and myself, are such as to make it an indispensable necessity that a horse and carriage should be at the disposal of this department. This is now the more imperative in view of the large suburbs presently to be included within the limits of our city.

A. ROBILLARD, M.D,
Medical Health Officer.

ST. CATHARINES.

Chairman's Report.

I have the honour of submitting to you our Annual Report, in accordance with the Public Health Act of Ontario.

When I accepted the position of Chairman of the Board, although I had been a member of the Board since its first organization, I did not fully realize the responsible duties pertaining to the office, and some of those duties I fear have been rather indifferently performed, especially after having been so ably attended to by my predecessor, Geo. C. Carlisle, Esq. Fortunately, however, we have been favoured with a season that has not required any very special attention.

The experience of the past year has convinced me of the necessity of having a Medical Health Officer in connection with the Board, who could be consulted at all times as occasion might require, thereby relieving the Chairman of a large share of responsibility in connection with cases that arise of which the latter may have no knowledge. That officer could be appointed without salary, and paid for services rendered during the year.

The question of compulsory vaccination will be taken up at the next regular meeting of the Board, in compliance with the request of the Provincial Board of Health. The City Council is still expending a large sum for drainage in different parts of the city, from which we expect to receive beneficial results in due time. The water commission is also extending the water supply over a large area, and citizens generally are getting alive to the necessity of having pure water. The impure water used from many of our wells is, no doubt, a serious cause of a large amount of sickness, yet it is surprising how owners of wells adhere to the idea that the well water is all right, and even go so far as to defy the Board to close them up. The work, however, is gradually going on, and numerous wells are being closed or disused. In some cases we have had the water analyzed, and when found bad have ordered the wells to be closed forthwith.

Our Board has requested the City Council to have erected a small building on the grounds of the General and Marine Hospital, for the purpose of isolating cases of contagious diseases—other than smallpox—that occur in families or hotels, where it becomes necessary to have the patients removed, thus affording a convenient place where such patients can receive the necessary care and nursing. The city pays a sum annually to the hospital for this and other purposes.

The statistics from report of city clerk show the death-rate from all sources, up to 15th Nov., 1888, to be 175, being a death-rate of 17.5 per 1,000. Deduct from this amount 43 deaths by accident, old age, etc., and there are only 142 deaths from natural causes, making actual death-rate 14.2 per 1,000.

The expense account of our Board will be inside of the appropriation of $500. Three hundred and sixty of said sum is paid to the Sanitary Inspector, who performs his various and sometimes very unpleasant duties in a most efficient manner.

During the year there were 12 cases of typhoid, 13 of scarlatina, 63 of diphtheria, and 19 of measles.

SAMUEL G. DOBSON,
Chairman.

ST. THOMAS.

Medical Health Officer's Report.

As Medical Health Officer for the city of St. Thomas, I beg to report as follows :—

During the year ending Nov. 1st, the city has been remarkably free from disease, with the exception of scarlet fever and diphtheria. We have had 63 cases of scarlet fever without a single death ; 32 cases of diphtheria and 3 deaths ; 6 cases of typhoid fever and 1 death. Only 2 cases of measles were reported, and no deaths, making a total of 103 cases, with four deaths. Two of the cases of typhoid fever had contracted the disease before coming to this city.

Much has been done during the present year in improving the sanitary condition of the city by our efficient officer, the Sanitary Inspector. I have accompanied him on several occasions in the performance of his duties, and have rendered him all the assistance in my power. I consider the city in a better sanitary condition at the present time than it has been for several years past.

J. B. TWEEDALE. M.D.,
Medical Health Officer.

TORONTO.

Secretary's Report.

In accordance with the requirements of the Public Health Act, I have the honour to submit the annual report of the Local Board of Health of the city of Toronto for the year 1888.

The following is a synopsis of the work carried on during the year under the supervision and direction of the Board :—

The first step taken by the Board was to give the citizens the fullest information possible regarding the requirements of the Public Health Act. This was done by way of having large boards, with the most important extracts from the Act printed thereon, and the boards placed in very conspicuous places throughout the city.

A number of inspectors are employed by the Board, looking after the many complaints sent in to the Medical Health Officer. These inspectors are kept very busy and do their duty in a satisfactory manner. They are required to report from time to time what particular duties they have been engaged in, and such Report is at hand when called for by the Board.

Private Drains.—The attention of the Board having been called to the method of constructing private drains, the following order was passed and a copy transmitted to the city engineer, with instructions to rigidly enforce the law :—

"That from this time forth all private drains must be constructed in accordance with the by-law relating thereto."

Since this order was passed, very few complaints have come to the knowledge of the members of the Board.

The Gaol.—On the 27th March, a report as to the sanitary condition of the above named building was received from the Medical Health Officer. This report embodied a report from one of the city plumbing inspectors, clearly setting forth what was required to place the building in a better sanitary condition.

A lengthy letter from the Government Inspector of Prisons, also bearing on the subject, was received a short time after. These documents were referred to the Committee of the City Council, who have charge of the said institution, for consideration.

The matter was subsequently taken up in earnest, and an architect appointed to examine the building and prepare plans, etc., embodying as much as possible the recommendations set forth in the Medical Health Officer's and plumbing inspectors' reports.

Tenders were let, and the improvements are now well under way, and the Board hopes to be able to report before long that it is one of the best buildings of the kind in the city, so far as sanitary matters are concerned.

Inspection of Milk.—This important subject was first introduced to the Board this year by way of a circular from the Provincial Board of Health.

The Medical Health Officer drew up a report setting forth the necessity of having the dairies, creameries, etc., thoroughly inspected, but owing to the large amount of important business before the Board, the matter was left over for future consideration. Nothing further was done with the matter, and it is the wish of the Board that next year will see a rigid inspection carried out.

Ashbridge's Bay.—On March 27th, a large deputation waited upon the Board and asked its co-operation in furtherance of a scheme whereby the waters of Ashbridge's Bay could be made clean and more healthy.

They suggested the making of a cut at the east end of the bay, thereby connecting it with the lake, and thus allowing the polluted water and refuse which has for a long time been very detrimental to the health of the citizens residing in the locality to flow out into the lake.

The Board appointed a sub-committee of five of its members to examine into the whole matter, and consult with the city engineer, city commissioner, and all parties interested, with a view of bringing forward some feasible scheme for cleaning the water of the bay named.

This sub-committee reported that, after giving the locality a thorough inspection, both by land and water, and after carefully considering the whole matter, they had come to the conclusion that the only feasible scheme which could be undertaken with a view of good benefit was to make a cut at the eastern end of the bay right through to the lake, thereby joining the two waters, and with the proper winds, the refuse, etc., would flow out into the lake, while at the other end of the bay the fresh water would flow into the bay.

It was further suggested that the above works be commenced without delay, and be done by day labour, under the supervision of the city engineer and city commissioner.

The report of the sub-committee was adopted by the Board, and after procuring from the city engineer an estimate of the cost of carrying out the scheme to completion, the whole report was recommended to Council for adoption.

The Council, after considering the great necessity for the improvement, adopted the report in its entirety. The work was begun under the supervision of the city commissioner—large gangs of idle men were seeking work, and a number of them were given employment, some digging, others hauling and wheeling the sand, etc. After a good summer's work it has been completed in a very satisfactory manner, and in the short period since it has been completed, a very marked improvement can be noticed in the whole locality surrounding the bay. The winter having set in, of course very little water can flow in and out of the bay, but it is to be hoped that by this improvement the rush of foul water into the lake will continue until nothing remains on the city's eastern water front but a fine fresh body of water.

His Worship the Mayor, Ald. Drayton, the Chairman of the Board, and the City Commissioner have been indefatigable in their endeavours to see the scheme carried out successfully, and to those gentlemen a large amount of credit is due.

Drainage of Lanes.—The attention of the Board was directed to the very unsanitary condition of many of the lanes of our city; and as the Council have the right by by-law to take the initiative and lay down drains where required, on sanitary grounds, and assess the owners of the property immediately benefited for the cost thereof, it was a strong recommendation from the Board to the Committee on Works and City Engineer to have all the lanes of the city properly drained, so far as practicable, as soon as possible.

The Board learned with gratification that its recommendation to the Committee on Works has been extensively carried out, and where lane drains have been laid, a much better and healthier atmosphere is noticed in the locality.

It was the expressed desire of the members of the Board that this work should continue until every lane of the city was properly drained, as it had been proved that this is the proper way to drain all houses, instead of constructing the drain along under a house to connect the same with the street sewer.

Collection of Garbage.—The Medical Health Officer submitted a lengthy report on the above subject, and directed the attention of the Board to the great necessity for having the garbage of the city collected twice a week during the warm weather, instead of once as at present. From a sanitary point of view, the members of the Board thought the idea a first-class one, and a strong recommendation was sent to the Markets and Health Committee, who have charge of such matters, asking it, in the interest of the health of the citizens, to have a semi-weekly collection of garbage made during the summer months, and, further, that sufficient funds be placed in the Estimates for the purpose of carrying out the same.

The Markets and Health Committee subsequently adopted the recommendations of the Board and carried on the work as suggested.

That the idea was a success is evident from the fact that very few complaints, indeed if any, were heard of from the delay in the collection and disposition of garbage and refuse.

Island Conveniences.—The matter of providing conveniences for persons camping and residing on the Island during the summer months was considered by the Board, and an order was passed to the effect that the Property Committee be requested to take such steps as it may deem expedient to have proper conveniences placed at different points on the Island, for the use of the citizens generally, as well as the campers and residents thereon.

The Committee on Property presumably have dealt with the matter, as no complaints rom the above cause have been reported to the Department.

Island Garbage and Refuse.—Two men have been employed all summer collecting the garbage and refuse on the Island. The garbage, when collected, was burnt up and buried, in order that it might not be a nuisance to the many citizens spending the day over on the Island. The result of such a scheme was remarkable, as not a complaint was heard throughout the summer. The Board hopes that this means of destroying the Island garbage, etc., will continue until some more feasible scheme can be adopted.

Inspection of Plumbing.—On the 4th of May, the Medical Health Officer informed the Board that, in accordance with the new Plumbing By-law, the plumbing inspectors had ceased to report to his Department and receive instructions therefrom.

The Board, after a careful consideration of the matter, decided to ask authority from the Council for the Chairman to introduce a Bill to amend the present by-law regulating plumbing, so that the inspectors shall attend and report on matters referred to them by the Medical Health Officer.

It is a matter of extreme regret that the Board has to report that the action of the Council in passing the Plumbing By-law, without making any reference therein to the Medical Health Officer, was most injurious to the health of the citizens, as a large number of matters were reported daily which require the attention of practical men, and as a result all such reports could only be dealt with to a certain degree, and then deferred and dropped.

It is not only expedient but requisite and necessary that the plumbing inspectors should report to the Medical Health Officer's Department on certain matters, and the Board hopes that such a provision will be made in the new by-law before being finally passed by the Council.

Closets and Urinals.—The Medical Health Officer informed the Board by letter that he had written the superintendents of the different railway companies asking that before the advent of warm weather the closets and urinals in connection with their respective stations and stopping places be properly cleaned and kept in a first-class sanitary condition. Subsequently, replies were received from the aforesaid representatives of the railway companies, stating that it would be attended to at once, and that no complaint could arise from any negligence on their part.

The Public Halls.—Some persons having directed the attention of the Medical Health Department to the insanitary condition of the public halls belonging to the city, the officer of that Department had a complete examination of the said halls made in order that the cause of complaint might be properly located and report made as to what was necessary to remedy the evil complained of.

The report was received by the Board, as it was thought that in the interest of the health of the many persons using the said halls something should be done to make complaints impossible, and a request was forwarded to the Property Committee, who have charge of the same, to the effect that a thorough overhauling was necessary of the city's halls in view of the complaints made.

Supply of Milk.—The Medical Health Officer wrote asking the Board for instructions in the matter of obtaining permits by those persons dealing in milk in accordance with the requirements of the Health Act, and the Board gave him positive instructions to strictly enforce the Act so far as the same relates to the supply of milk in this city.

Inspection of Factories, etc.—This very important subject received considerable attention at the hands of the Medical Health Department, and a lengthy report thereon was submitted to the Board. The report stated that 278 establishments had been inspected, and 210 of the same were found to be in first-class sanitary condition, the balance, 68, have more or less been placed in a better condition, and very few complaints have been made as to unhealthiness, etc.

A large number of private dwellings have been inspected and found more or less in a sanitary condition. Many dwelling houses have not as yet done away with the old-fashioned and very unhealthy privy-pits, and, as a matter of course, any place with such a nuisance as this in the neighbourhood must neeessarily be unhealthy to the residents.

The citizens are gradually being educated into the necessity of closing up all privy-pits, and before many months very few will be located in the centre of the city.

The City Water Front.—This very important matter has engaged the attention of the Board, and a lengthy report bearing upon the subject was received from the Medical Health Officer. After giving the matter considerable attention, a sub-committee of the Board, together with the Medical Health Officer and the City Commissioner, was appointed to take immediate action in the premises, and authority was granted the chairman to hire a dredge and have the important slips dredged and cleaned with all possible despatch.

Dredging was carried on for many days, and the large quantity of most filthy sewage—disease breeder—taken from the slips was enough to disgrace any city.

That the action of the Board in having the above work done with so little delay was approved of, could be learned from many citizens.

There is only one way whereby all this dredging and cleaning, as well as annoyance and inconvenience could be done away with, and that is by having the mouths of the sewers emptying into the slips extended out to the ends of the wharves, where they could get a clear passage and better working.

By this improvement the many disgraceful scenes at present noticed in our important slips will be avoided, and the Board strongly recommend the immediate action of the Council in having such a scheme carried out.

The cost of dredging being very high, in comparison with the cost of purchasing a dredge, the Board strongly recommended to the Council the purchase of one, as its use will be required more or less throughout the season.

Public Abattoirs.—The attention of the Board was directed to the great necessity of establishing a public abattoir within the limits of the city, thereby doing away with those disease-breeding places known as slaughter-houses. A committee of the Council has taken the matter up and are looking after information on the subject, as to the cost of working, etc.

This, if established, will, no doubt, be a step in the right direction.

Cat Fish Pond.—A number of residents in the vicinity of High Park waited on the Board in reference to the unsanitary condition of the above named pond. They claimed that the said pond in its present state was most injurious to the health of those residing round about. The Medical Health Officer submitted a report on the subject, and recommended certain improvements to the same. After hearing the report read, the whole matter, with all documents referring thereto, was referred to the Property Committee for consideration, with a suggestion that a proper survey of the locality be made, and that the place be thoroughly inspected with a view of bringing forward some feasible scheme whereby this much desired improvement might be carried out. The matter has been before the Property Committee, and as it is not yet determined what plan will be carried out, consideration of the same will have to be continued next year.

Consumption of Smoke.—This question has engaged the attention of the Board this year. A sub-committee was appointed to meet and confer with a sub-committee of the Markets and Health Committee, with a view of adopting some scheme whereby the vast quantities of smoke arising from factories and large manufacturing places might be consumed. The joint sub-committees have not held a meeting yet, hence the matter stands. It is the desire of the Board that this matter should not be allowed to drop, but that consideration be carried on until something is accomplished.

Narrow Streets.—The Board received a communication from the Assistant City Engineer, drawing attention to the practice of subdividing lots in the area between Yong street and the Don, and Front street and Carleton street, in rear of other houses, or cutting up lots with streets only thirty feet wide, contrary to the provisions of the statute governing the same, thereby forming a hot-bed of infection for the spread of disease and epidemic. The attention of the Board of Works was subsequently directed to the practice, and the Board earnestly hope to see a prevention of such an unsanitary evil strictly adhered to.

Privy-pits, Wells and Cisterns.—The Medical Health Officer brought before the Board a report setting forth the great necessity of having the law amended, giving power to his Department to order the closing up of all privy-pits, wells and cisterns forthwith, these places being very detrimental to the health of people residing where they are located, any number of cases of sickness having been caused by their existence.

The recommendation was approved of and will have to be considered again at an early day.

Smallpox Hospital.—The Board have received, from time to time, many letters and petitions praying for the removal of the above named institution from its present location on Broadview avenue to some place more suitable for the same. A committee of the council has considered the question and recommend the removal of the institution with all possible despatch, but the Board, while anxious to comply with the wishes of the people as much as possible, could not at the present time see a more suitable location for such an institution ; and as it must necessarily be located somewhere in the city, it is very likely wherever it is placed there would be the usual outcry for its removal.

Public Health Act.—The Board, after viewing the many difficulties which have arisen from time to time in the enforcement of the Public Health Act, appointed a sub-committee to consider and report what legislation is requisite in order that better work may be accomplished in the Medical Health Department. The sub-committee has not yet reported the result of their deliberations, but it is expected they will do so shortly.

Free Vaccination.—Free vaccination has been carried on during the year very extensively. The employees of many of the large establishments and factories have submitted to vaccination, and it is considered that this action was a very wise one, as there is no doubt but that such a proceeding helped very much to prevent the spread of the smallpox.

Garbage Destructor.—The attention of the Board was again directed to the great necessity of having one or more furnaces or crematories constructed for the purpose of destroying the large amount of garbage collected throughout the summer annually. This is a very serious matter, and the Board has considered and recommended the establishment of some machine for the purpose named.

The council last year adopted the proposition, and have gone so far as to provide money to pay the cost of constructing some such machine, but there the matter now stands. It is to be hoped that before any great period passes by, one, at least, of these machines will be constructed and tried, and if found to work satisfactorily, another can be erected. Next year's Board should do all in its power to have a scheme brought forward and adopted.

Ice Cutting.—Last year's Board adopted certain restrictions as to the places where ice would be allowed to be taken from the Bay, and the result of said restrictions has resulted very beneficially to the health of the citizens using ice for drinking and such like purposes. The Board have this year adopted the same restrictions, and have instructed the proper officers to strictly enforce the same.

Sanitary Police.—The Police Department detailed four of their men for special sanitary inspection duty, and the result of their labour has been very beneficial to the city at large.

In conclusion it must be mentioned that the members of the Board have worked faithfully and well during the year, and have done all in their power to carry out its duties to benefit the citizens of this vast and growing city. The Chairman, Alderman Drayton, has been most assiduous in the discharge of his duties, and it is to that gentleman, to a very great extent, that the successful working of the Medical Health Department is due. A great amount of good work has yet to be accomplished, and it is to be hoped that next year's Board will endeavour to carry out the same.

JOHN BLEVINS,
Secretary.

In the report of the Medical Health Officer to the Local Board, he states that the number of diphtheria cases reported for the year was 490, but he does not give the number of deaths.—[Ed. Reports].

TOWNS.

BARRIE.

Chairman's Report.

A careful inspection of all the places in the municipality where filth usually accumulates was made during the month of April by the Sanitary Inspector, aided by members of the Board, resulting in a general cleaning up. The removal of certain piggeries and the plentiful use of deodorising material placed the town in a fair sanitary condition, considering the absence of a general or complete system of sewerage.

A greater number of cases of serious sickness have occurred than during any of the past few years; amongst the number were several cases of typhoid, mostly contracted elsewhere, some resulting fatally. Diphtheria also prevailed, but to a less extent, its victims being children.

With those exceptions the health of the town has been normal.

R. KING, Sr.,
Chairman.

BROCKVILLE.

Medical Health Officer's Report.

In compliance with the requirements of the Public Health Act, I beg leave to submit the following report of the sanitary condition of the town of Brockville :—

As my appointment to this office dates from April, 1888, I am able only to speak of what has been done during the past six months.

During the early part of the summer an unusual amount of diarrhœa made its appearance in the town, and gave rise to reasonable suspicion as to the purity of the water used for drinking purposes ; an investigation into the condition of the inlet pipe and well of the waterworks was ordered by the town authorities, and conducted under the supervision of the chairman of the Board of Health, the chairman of the waterworks company, the town sanitary engineer and myself. One connection was found to be imperfect, and one length of pipe near outer end slightly broken. The well was found to be perfectly tight and clean. The waterworks company promptly remedied these defects, and no complaints regarding the quality of the water have been made since that time.

During the past two months typhoid and typho-malarial fevers have been very prevalent.

The medical practitioners of the town have cheerfully carried out the provisions of the health by-law, and have sent in returns of all contagious and infectious diseases occurring amongst their patients ; these returns have been carefully tabulated by the secretary of the Board of Health, and infected houses immediately placarded. Notices were served on the teachers of schools attended by children from these houses, to exclude them from the school until a card is received from the attending physician that recovery has taken place and that the house has been properly disinfected ; a similar notice was served by the Sanitary Inspector on the librarian of the Mechanics' Institute library, and no books were issued to inmates of such infected houses, and those books which have been exposed to infection are properly disinfected before being again put into circulation.

By the strict observance of these regulations we have been able to reduce the number of cases of infectious diseases to a minimum, there having been only seven cases of scarlet fever and five cases of diphtheria reported up to the present date.

As I have stated, the presence of typhoid and typho-malarial fevers in Brockville this summer has been very marked. The connection of typhoid fever with the excremential pollution of drinking water is well known ; this results from the soakage of water through soil charged with sewage.

This is not surprising when we consider how little care is exercised to prevent the filth from privies and old drains from finding its way into the wells used for drinking purposes. Some late authorities assert that not only will water contaminated with sewage containing typhoid dejections cause typhoid fever, but water polluted by sewage can disseminate the diseases independently of typhoid excreta.

This was so evidently the case in connection with the water used from a public well on King street, east, where five cases of fever were distinctly traceable to its uses—that the Board of Health, acting on my advice, closed the well. No new cases have developed in that vicinity.

I would strongly recommend to the consideration of this Board the question of the advisability of closing up all the public wells, as I believe the water supplied by them is to be regarded with the gravest suspicion.

Perhaps more has been done this year towards a systematic cleaning and disinfecting of privies than ever before ; and yet, I am aware, that very little good has as yet been accomplished. The health by-law provides that this yearly cleaning be done on or before the 15th day of May ; parties interested take advantage of this clause and leave for the 15th of May what should have been done in the winter months. I would respectfully suggest that the by-law be so altered or amended as to enable the Board of Health to order a systematic cleaning of all privies, beginning from the 15th day of November and extending to the 15th day of June.

By this means the town can be divided up into blocks and the work done in a thorough and intelligent manner.

Milk being one of the necessaries of life, its value in respect of the amount of butter and its other constituents, becomes of great importance to society, since it forms almost the entire food of invalids, and children at that period when they are the least able to withstand any interference with the purity of their food; there is, however, no one article that is so frequently adulterated or sold in an impure condition.

Whilst the prevention of adulteration is important, we should go still further and check the sale of milk that is impure in other ways; and if the best interests of the public are to be protected, it is absolutely necessary that the condition of the animals producing it, and their surroundings, be rigidly inspected. For the carrying out of this end it is necessary that permits for the sale of milk should be granted to such vendors as are willing to enter into an agreement to furnish the Board of Health with every facility for examining into the workings of their dairies; and, also, immediately to report any disease existing either in their homes or amongst their cattle. These permits and agreements are printed and ready for use whenever the town council sees fit to pass a by-law authorising the same. The law suffices to enable the health officers to prevent the adulteration of milk offered for sale, and an inspection and report will be made from time to time.

I wish to bring before your notice the advisability of purchasing, on the outskirts of the town, a suitable lot on which could be erected a pest-house.

Our town has been mercifully preserved from any need of such a place during the past two years, but to be ready for any contingency is surely the part of wisdom; and by having suitable preparations made, much danger to life and expense to the municipality might be avoided.

The drainage of our town is, as you are aware, making very satisfactory progress; it is unnecessary for me to make any special or lengthy allusion to it. The excellent system adopted, and the careful manner in which every part of the work is supervised and carried out, leaves nothing to be desired. All plumbers are licensed, all plumbing inspected, and no connections are allowed to be made with the sewers until all has been done that scientific knowledge can suggest to render our homes free from the invasion of disease.

During my short term of office I have received very great assistance from the Sanitary Inspector—Chief Mitchell.

We have, together, investigated every case of complaint entered in the "complaint book."

The Inspector informs me that he has inspected 268 yards, and has ordered closets cleaned to the number of 208.

HARRY E. VAUX, M.D.,
Medical Health Officer.

CHATHAM.

Medical Health Officer's Report.

In presenting my annual report for the year terminating November 15, 1888, allow me to congratulate you on the very excellent and useful work done by the Board, and thank you for the prompt action you have always taken on matters brought to your notice.

The following is a summary of the preventable diseases that have occurred in town during the year: Typhoid fever, fifteen cases, one death; diphtheria, twenty-seven cases, five deaths; scarlet fever, twenty-one cases, three deaths; measles, four cases. Total, sixty-eight cases of preventable diseases, causing the loss of nine lives.

The physicians of the town, recognizing as they do the importance of promptly reporting cases, and the inspector's daily call on each of them, has served to make the reports to this office almost perfect.

The inspector personally now attends himself to the disinfection of all the premises where contagious diseases occur. From investigations I feel convinced that the last outbreak of diphtheria in the town was imported from the country, where the system of reporting, placarding and disinfecting is seldom if ever enforced.

If an arrangement could be made with the four adjoining townships so as to form one large health district, it would be very greatly to the advantage of all concerned. You have already, by their consent, supervision over the slaughter houses adjoining the town, which will undoubtedly be a great advantage to you in the struggle against preventable diseases. The inspector ordered the cleaning of 565 privy vaults during the year, while thirty permits were granted for the erection of new water-tight closets. Thirty licenses were granted for milk vending. All the dairies were visited by the inspector and myself during the year at least once, in many cases oftener, when the condition of their premises, cow-byres etc., were carefully looked into; also the methods of handling milk, etc., and suggestions made to the dairymen where improved methods were advantageous.

During the year the town council granted sufficient money to purchase a complete set of apparatus for testing milk; they also passed a by-law for the regulation of the sale, quality, etc., and empowered the health officer and inspector to carry out its provisions. Since the purchase of these instruments I have submitted thirty-seven samples to the various tests (in some cases three or four samples from the same vendor), and found that, in a large number of cases, the samples were not standard milk; but I find that the samples last examined were much better than the first. So far we can confidently state the apparatus has been an advantage to the consumer, and will undoubtedly be a greater one after a few parties who persist in adulterating milk will have been prosecuted. The pestiferous hog has been very much complained of by the citizens, and I find that clause 14, rule 7, schedule A, of "The Public Health Act," is not sufficient to cope with the nuisance of hogs in this part of Canada where the winters are so open. If the regulations of the Act were made operative all the year round the nuisance would be far less.

The disposal of kitchen garbage has given rise to considerable trouble to the inspector, and is a nuisance to many citizens. On one street in particular, householders got into the habit of dumping garbage at night in front of a neighbour's house, and the practice became so universal that almost every householder on the street would find a heap of garbage in front of his residence in the morning. The Inspector left a notice at each house on the street warning them to stop the nuisance; he also called their attention to the easy method of disposing of kitchen garbage by burning. The practice has since stopped.

The landlords were notified to supply their tenants with proper water-closet accommodation, and at once complied. All the several nuisances complained of, as recorded in the book for that purpose, were looked into and abated when we thought we had power, but several were of such a nature that they were, properly speaking, merely annoyances rather than nuisances to public health, and we had no power to remedy them. We take great satisfaction in stating that we were ably seconded by citizens of the town, and it was not found necessary in any case to have resort to the law courts.

WM. R. HALL, M.D.,
Medical Health Officer.

COLLINGWOOD.

Secretary's Report.

In compliance with your printed circular of the 9th ultimo, I herewith forward report of the sanitary condition of the town during the past year.

The question of water works, which are an absolute necessity from a sanitary standpoint, is now agitating the public mind of this town, a by-law for the purpose having been submitted by the council, and will be voted on next month. I trust this will meet with the approval of the electors.

We have had the following cases of infectious and contagious diseases :—Croup membranous, thirteen cases ; diphtheria, twenty-one cases and one death ; fever enteric, seventeen cases ; measles, four cases ; scarlatina, nine ; whooping cough, 125.

There has been no serious outbreak of any contagious disease during the year, and apparently no necessity for any active work by the Local Board of Health.

There is no regularly appointed medical health officer in the town.

JOHN HOGG,
Secretary.

DUNDAS.

Medical Health Officer's Report.

During the past year there have been quite a number of cases of infectious diseases within the limits of the town. Diphtheria made its appearance just about twelve months ago, and during the next few months a good many cases occurred, these cases being distributed over nine or ten families. Three of these families occupied adjacent dwellings, and the disease spread from one to the others, but with this exception they were widely separated, and it is probable that the infection was not carried from one family to another in the town. A few cases of measles occurred, how many cannot be stated, as they were not reported. Rötheln was epidemic in the spring, and but little attention was paid to it in most cases. No cases were reported by medical men. Of typhoid fever there have been a number of cases, but the disease has not been prevalent. Malaria has shown its influence in much the usual way. There was comparatively little of the diarrhœa from which children, particularly, usually suffer so much in the latter part of summer, this immunity being due partly to the fact that there was no lengthy period of high temperatures.

In a general way, the sanitary condition of the town has been good, especially during the summer and fall months. The few cases of typhoid that have occurred have been in groups for the most part, and that the cause has been unwholesome water, there seems little doubt. The necessity for a further supply of wholesome drinking water still exists. It is to be hoped that the steps taken towards this end by the municipal council will be successfully followed up. The want of water that can be relied on as good, is, perhaps, the most unfavourable condition—among those that are preventable—from a sanitary point of view, in which the people of the town are placed.

JAMES ROSS, M.D.,
Medical Health Officer.

Chairman's Report.

In accordance with the terms of the Act, every property holder within the corporation has been duly notified as to the cleaning of vaults, drains, and cesspools, and the same has been promptly carried out under the direction of the Health Officer during the summer. Several complaints of open drains and cesspools which were detrimental to health were received, but in every instance these were, upon proper notification to the parties concerned, put in good repair. The Board have, for two or three years back, notified your council to keep on hand a supply of copperas, so that vaults should be disinfected immediately after cleaning. We find that, owing to the liberal use of copperas, typhoid fever in Dundas was very much reduced. The Board would also urge upon you the question of sewage, as it is evident that all liquid matter thrown out must either sink into the ground and pollute the wells in time, or remain in cesspools and contaminate the air. We consider this of vital importance, as the town in another year will have the best water supply in Canada ; and the introduction of water services to householders will necessitate some system of drainage.

JOHN BERTRAM,
Chairman.

GALT.

Medical Health Officer's Report.

In making this my fourth annual Report, I am glad to say that the town shows a lessening of the death-rate and a freedom from outside epidemics, and a lower rate of infectious diseases than the majority of towns in the Province. This, I think, may be accounted for by the thorough work done by our Inspector, and a general desire of the inhabitants to assist him and the Board in carrying out instructions. Though yet imperfect, I hope the time is not far distant when we may be in a better condition to carry out and enforce the Public Health Act. I would suggest to this Board having some appointed place that the Inspector could be found, and certain hours made known that any grievance the public may have, he will be in a position to take action. As things now exist he is hard to find. Numerous complaints have been made to me through the year of families throwing slops at their back doors, especially during the winter when frozen snow and ice accumulate in large quantities and become very objectionable in the spring. I recognize the fact that it is hard to overcome this difficulty, when we have no system of sewerage to carry off this matter; and until a proper system of water works and sewerage is adopted, this grievance will continue to exist.

During the year there has been twenty-eight cases of diphtheria reported, with only two deaths, which shows that it was not of a malignant type.

Seventy-three cases of typhoid fever spread over the whole year with only four deaths. The many rumors connected with the existence of this disease led the public to suppose that hundreds of cases existed around them, and in the town. The truth of the matter is we have not had the usual number of cases as in former years, nor in the average as much as other towns of similar size.

There has been a few sporadic cases of scarlet fever and measles, but not epidemic in character and of a very mild type.

I cannot close my report without expressing my regret at the action taken by some persons in the municipality regarding the hospital by-law, but hope and trust that all obstacles will soon be removed, and by the end of another year the building will be completed and properly equiped to receive the many that now have to be sent out of town for proper care and treatment.

G. P. SYLVESTER, M.D.,
Medical Health Officer.

KINCARDINE.

Medical Health Officer's Report.

I beg leave to report that the general health of the town has been fair.

There have been forty-eight cases of diarrhœa caused principally by the excessive heat of past summer, and confined exclusively to children under twelve; three cases of very mild typhoid; four cases of diphtheria—mild, one adult and three children; six cases of cholera morbus; two of intermittent fever—mild.

There have been no complaints of nuisances within the corporation and everything is satisfactory.

BENJ. WALDEN, M.D.,
Medical Health Officer.

LINDSAY.

Chairman's Report.

The first important matter brought under the notice of the Local Board of Health occurred on the thirty-first of January: it was reported that a young man, Hugh Graham, who had been working in a shanty north of Kinmount, had come to Lindsay on that date, and that he was then suffering from a malignant attack of diphtheria, and that he reported to the Town Physician that he had been under treatment by Dr. Frost, at Kinmount, who, he said, told him that "he had better get on to Lindsay." Graham at the time produced a bottle containing medicine prepared by Dr. Frost. The young man being comparatively a stranger in town, very ill and indigent, was taken charge of by the town authorities with a view of getting medical treatment and preventing the spread of the disease under which he was suffering.

He was placed under charge of the gentleman employed by the municipality to afford medicine and attendance to the poor and indigent of the town. At a serious expense to the town of Lindsay a house had to be rented and furnished and supplied with food, fuel and attendance until he was reported sufficiently well to go to his native village, Newcastle.

Acting on the statement made by Graham, information was laid against Dr. Frost for contravention of the Ontario Public Health Act, and the matter investigated by the Police Magistrate of the town of Lindsay, which investigation resulted in the dismissal of the charge without costs.

The necessary precautions as to detention and thorough disinfection of the coach in which Graham travelled was promptly attended to.

The system of sewerage of the town of Lindsay is on the whole defective. There is a main or trunk sewer running through part of Kent street, which was constructed some years ago for the drainage of the street and cellars on each side of it, but not intended to be used as an outlet for offensive slops or the soil from water closets. The closets at one time connected with the sewer have been cut off, and the sewer is now used only for the purpose for which it was originally constructed. Complaints having been made that offensive odours came from the opening of the sewer, we caused about half a bushel of dry charcoal to be suspended under the grating, and poured liberal quantities of Littles' soluble phenyle in through the gratings, the application of which remedies has materially mitigated the evil complained of, and has been the means of saving a large expense in periodical flushing of the sewers.

On the recommedation of the Board the council purchased, early in the present year, an acre and a half of land well situated, as a "dumping ground" for the reception of offensive accumulations. Decaying animal matter is buried in this piece of land, and deep trenches dug for the reception and covering in of the soil removed from closets. The place is well removed from the centre of population, and with ordinary supervision has afforded and will continue to afford great accommodation to the public.

The health of the town has been fairly good. Appended hereto is a statement taken from the books of the Medical Health Officer of all contagious diseases reported.

The only serious cases which the Board has to bring to notice, are those of Mr. King who resides in the South Ward. In October diphtheria made its appearance in his family, six of whom were attacked of which four terminated fatally. Another case occurred in the family of Mr. Leary in the East Ward, one case terminating fatally; but with the prompt removal of the family to a temporary residence down the river, the disease was easily stamped out so far as Mr. Leary's family was concerned. The necessary precautions as to placarding have been adopted; and in all cases in which contagious diseases existed, the children from suspected localities were temporarily prevented from attending the public schools.

The Board have to express its sincere regret that some ten weeks ago Dr. Coulter, Medical Health Officer, was visited with a serious attack of diphtheria and is still so debilitated as to render him unfit for immediate duty.

His duties have been performed by Dr. Poole, who attends to the important department of Medical Health Officer with his usual zeal, courtesy and decision of character, as well as that of an accomplished sanitarian.

The Board beg to point out that the deaths reported in the town of Lindsay during the present year amount to only forty-eight from all causes, or 48-6000 of the estimated population; and as the great majority of such deaths are attributable to old age and natural decay, the town may be fairly classified as one of the healthiest in the Province of Ontario.

In the month of August of the present year this town had a visit from the Association of Executive Health Officers of the Province of Ontario, which body was accompanied by Dr. Hewitt, President of the American Public Health Association, Drs. Rae and Lachapelle, Presidents of the Provincial Boards of the Provinces of Ontario and Quebec respectively, and other well-known sanitarians. Their deliberations lasted three days, during which very important papers were read and discussed.

The sanitary business of the town has been fairly attended to, and it is very noticeable that the people generally are getting well reconciled to the sanitary supervision prescribed by the laws of the Province.

Cases of disease reported to the Medical Health Officer:—Measles, 86; diphtheria, 14; scarlet fever, 4; whooping cough, 8; chicken pox, 1; typhoid fever, 2.

JAMES DEACON,
Chairman.

MEAFORD.

Medical Health Officer's Report.

The health of the public in this municipality for the current year has been fairly good. No epidemic of any kind has visited this section.

Eight cases of fever of a markedly typhoid type have occurred in all during the year, but of those four were importations, the disease having without doubt been contracted elsewhere.

Three of the cases proved fatal, that is, of those who contracted the disease elsewhere, and two of those who contracted it in this town also died. The fatal results were chiefly attributable to accidental complications rather than to any intrinsic severity in the form of the disease itself.

No cases of diphtheria, small-pox, scarlet fever, or any other infectious disease except the one above-mentioned have been reported.

As regards the sanitary arrangements of the town, the removal of sewage and excreta is done chiefly by means of private drains, and in the thickest populated part of the town the water closets are for the most part provided with water-tight sliding box drawers, after the manner of the dry earth closet system. It is proposed to extend this system, which has been in operation several years, and to perfect it as far as possible.

As regards the prevailing types of disease met with in this locality, it may be said that catarrhal affections of the respiratory passages are exceedingly common, particularly in autumn and spring. The damp and changeable climate, and the fact that in the spring the ice most generally remains long upon the bay, probably conduce to the prevalence of the above-mentioned maladies among the people. Acute and chronic rheumatic affections and neuralgias are also quite frequent, and it is probable that their exciting cause is often in common with that of the other group of diseases.

In other respects this section may be regarded as very healthy, the air being exceedingly pure and bracing, and entirely free from malarial influence. The water springs are abundant and excellent, while the rolling character of the land in the locality round conduce to natural drainage.

All the known methods of disinfection and precautions employed for the purpose of preventing the spread of disease, in the cases of typhoid, have been applied.

C. F. SNELGROVE, M.D.,
Medical Health Officer.

MILTON.

Chairman's Report.

The Board of Health of the Town of Milton present their report for the year 1888:

The Board held five sittings during the year, at which the various complaints made were dealt with.

As the Board has no Medical Health Officer to report any cases of disease which may be prevalent, they have relied upon what they could gather from observation and other sources, and are pleased to report that the state of the public health of the town for the past year has been comparatively good.

Two cases of diphtheria came under the notice of the Board, one being of a malignant type and proved fatal, but from neither of those cases did the disease spread.

There were several cases of typho-malaria in the town which may have originated from various causes, none of which terminated fatally.

There were complaints made of unsavory odours proceeding from the tannery and from refuse matter therefrom, which were abated after the Board investigated the same.

The Board would call the attention of the council to the necessity of procuring some place to which waste refuse matter and garbage could be taken from yards, lanes and alleys, and burned, the attention of the Board being frequently called to the amount of such matter which has accumulated in some of the yards of business places.

They would also urge upon the council the necessity of proceeding to have the slaughter houses removed from within the limits of the corporation, as those places have been and still are of very great offence to those who reside in the vicinity of the same.

The Board would report their recognition of the great need there is of a better sanitary system of disposing of excreta than at present exists, and would urge the abandonment of the system of cesspools, and the adoption of a system of ash or dry-earth closets. Owing to the increasing population, and the use of the present system, the water in many wells in the town will naturally become impure and dangerous to public health.

SAMUEL DICE,
Chairman.

MOUNT FOREST.

Secretary's Report.

In the early part of the summer our sanitary inspector made a thorough inspection of the town, visiting all the back yards and other places which might require looking after, and promptly notified all parties to clean up and purify their premises. It has not been necessary this year to impose a fine upon any of our townspeople for breach of the sanitary laws.

The only cases reported to me were two cases this fall of diphtheria.

We have no medical health officer.

W. C. PERRY,
Secretary.

NAPANEE.

Secretary's Report.

In presenting this my annual report of the work of the Board of Health for this municipality for the current year, I have very great pleasure in stating that in consequence of the almost entire absence of contagion and the general healthy state of the town, the duties of the Board were rendered comparatively light. The Board held several meetings at stated times during the year. At a meeting in April the usual notices were placarded throughout the municipality, for the cleansing of premises and the removal of all garbage and other deposits endangering the public health, which, under the supervision and vigilance of an efficient sanitary officer, were well observed and thoroughly carried into effect, and the town placed in a satisfactory sanitary condition.

The sanitary officer made periodical tours of inspection of the municipality, a report of which was submitted to the board at each meeting for its consideration. Any violations of the provisions of the Public Health Act discovered were immediately ordered to be remedied in the proper way.

Eight cases of diphtheria and one of measles were reported; no deaths. In each case the usual means were employed for isolation, and the prevention of the further spread of the disease.

There was constructed during the season some additional sewerage, which, no doubt, will have a beneficial effect in improving the sanitary condition of the town. The existence of a building within the town limits, used as a slaughter-house, was a source of annoyance to the Board by the frequent complaints of the disagreeable and offensive odors emitted therefrom. The proprietor failing to comply with the authority and direction of the Board, the nuisance was speedily removed by its subsequent and mysterious destruction by fire. As a matter of economy the Council have this year dispensed with the services of a medical health officer.

PHILIP EMBURY,
Secretary.

NIAGARA FALLS.

Secretary's Report.

The town has been free from epidemic diseases, and the public health is good. Owing to the prevalence of small-pox in Buffalo and in Tonawanda (ten miles distant), and this place being situated on one of the highways of railway travel from Buffalo, compulsory vaccination has been resorted to, and about one thousand persons have been vaccinated; in fact, most every one who was not vaccinated some few years ago at the time of the Montreal epidemic. There has been no small-pox among the people of this town, and the Local Board of Health don't intend there shall be, if vaccination will prevent it.

The need of better sewerage is felt here, and it is gratifying to report that the need is being met in a measure by the putting in of properly constructed tile drains on several streets.

J. ROBINSON,
Secretary.

ORANGEVILLE.

Medical Health Officer's Report.

Owing to the continued neglect in furnishing detailed reports on the part of householders and physicians, I am able merely to give a general outline of the diseases prevalent during the season of 1888, together with a few brief remarks relating thereto. Until municipalities realize the importance of making an appropriation to defray cost of sanitary work, and of providing an efficient system of house to house inspection, the process of sanitation will be imperfectly performed. Unless vigorous measures are adopted early in the season, such diseases as typhoid fever and diphtheria will continue to exist throughout the whole year. This has been the case in this municipality, outbreaks, more or less severe, of dipththeria occurring at intervals excepting during the hotter and drier periods.

The month of January was characterized by numerous cases of an affection known as lacunar tonsilitis, merging now and then into scattered cases of true diphtheria. Pneumonia also prevailed to a considerable extent during the same month.

Towards the latter part of March measles of an ordinary type made its appearance. Children belonging to infected households were suspended, and the epidemic gradually subsided; but not until well on in May.

Numerous cases of diphtheria occurred in April, some of which were fatal.

The month of June, ordinarily marked by but few cases requiring medical attendance, was peculiar in that measles and diphtheria were both rife throughout the month.

Scattered cases of diphtheria continued to crop out during July. I duly instructed the Sanitary Inspector to see that all wells should be cleaned out. I have reason to know that the law in this respect was "more honored in the breach than in the observance."

August, which is usually counted as one of the unhealthy months, was remarkable for the absence of much general disease. I was requested by the Public School Inspector to report on the suitability of the premises on the corner of P. W. road and Zina street, for the purpose of a ward school. After a careful examination of the rooms proposed to be used, I reported adversely, owing to the imperfect provisions for ventilation and the poor lighting facilities.

In September a few cases of malarial and typhoid fever occurred, but so far as I am aware all ended in recovery. Several deaths from diphtheria took place in this month, and fears were entertained lest it should become necessary to close the public schools.

In several instances criminal carelessness prevailed as to isolation of infected patients and families. There is but one remedy for this, in my opinion, namely, summons the offenders and fine them as heavily as the law permits.

In conclusion, allow me to say that so long as the town neglects to provide proper sewerage and permits the multiplication of privy-vaults, while its inhabitants depend on wells for their supply of the life-giving (and in such cases *death-dealing*) beverage, so long will we be ravaged by diphtheria and fever, and shunned by visitors and those who would otherwise cast in their lot with us.

Moreover, I must refer to the wonderful small number of children protected by vaccination attending our schools.

I am not aware that any steps were taken by the board to carry out my suggestions in regard to the milk supply furnished by our dairymen.

When the recommendations of a Medical Health Officer are ignored, when a board cannot be persauded to meet regularly, and when a Council neglects to fill vacancies in the Board created by death and illness, then it is indeed difficult to see what benefits can be obtained from any such farcical compliance (or rather non-compliance) with the Public Health Act.

CHAS. M. SMITH, M.D.,
Medical Health Officer.

PETERBOROUGH.

Medical Health Officer's Report.

The present year has been the least eventful of all the years since the passing of the Public Health Act. No outside epidemic has visited the town; there has been a much less proportion of typhoid fever, diphtheria and scarlet fever, not so large a number of complaints as in previous years, and a better compliance with the Statutes than heretofore. No better evidence of this could be given than the steadily decreasing death-rate. In 1885 this was 18½ in the thousand; in 1886, 18; in 1887, 17, and during the present year only a shade above 16. These are striking figures. To give another view, a difference of 2 per thousand in the death-rate of a town the size of Peterborough means a saving in ten years of nearly 200 lives. High sanitary authorities have given 17 per thousand as a standard to be aimed at. Peterborough has gone beyond this, and may therefore be pronounced one of the healthiest towns in the world. No better recommendation to manufacturers looking for a place to locate, or private parties looking for a town to settle in, could be given than to say that the death-rate here is only 16 per thousand.

Slaughter Houses.—Regular inspections of slaughter houses have been made, and notices served when necessary. More rain having fallen this summer than last, it was found that greater care was needed in cleaning up. The butchers now render their tallow every day or two, instead of keeping it two or three weeks. This lessens the disagreeable odor of that process. I may here correct a popular error as to the unhealthy nature of these fumes. They are certainly highly unpleasant, but not dangerous from a sanitary point of view.

Removal of Garbage and Excreta.—This has become a regular business, and quite a number of men are engaged in it. As in other years the greatest difficulty has been found in the rear of certain stores on George street, where the constant presence of a sanitary inspector would hardly keep things right. We have also had difficulty in disputed lanes where garbage is deposited, it is difficult to tell by whom. I think a couple of men from the street force should be detailed at stated times to clean them up. These are the places that attract attention, and, if ill-kept, give a bad name to our town. Manure heaps are sometimes allowed to attain larger proportions than the law permits. It should be remembered that not more than a waggon load in one place may accumulate without being removed. In many yards heaps of rubbish, such as ashes, scrap, metal, chips, etc., not dangerous to the public health, may be found. The health statute does not cover such cases, except in the spring of the year when refuse of all kinds must be removed before the 15th of May. I will again call the attention of the public to this matter at the proper time. Some try to evade the section relating to the cleaning of water-closets, but on the whole there is much more work done each year. Earth-closets make rather slow progress. If well kept they are a great boon, but if faulty in construction and not emptied regularly, they are worse than the old privy-vault.

A Word as to Sewerage.—It seems to me that this is a matter for the Dominion or Provincial authorities to take up. It affects not only our town but scores of similar towns springing up all over the country. For a place even to ascertain the best method of sewerage, is not only an expensive matter but a difficult question in the face of conflicting systems. Sewage farms seem to be making headway at present. Let the matter be investigated thoroughly and decided once for all by the central authority, and towns can adopt the system it recommends modified only to suit the particular necessities. Agricultural legislation is being constantly made by both Governments for the benefit of the farmers. and I don't see why sewerage investigations should not be carried on for the benefit of those living in towns and cities. At any rate the question might be looked into by our Parliamentary representatives.

Regarding the drainage of the Nicholls Hospital, the directors are making arrangements by which there will be no contamination of the river with dangerous matter.

Well Water.—I have analyzed about seventy samples of well water, and, as in previous years, have found a large portion very impure. I would again point to filtration as the only remedy for this. In the case of a water works supply cheap filters can be attached to the tap. Children attacked by diphtheria are generally said by their mothers to be great water-drinkers, and typhoid fever seems to occur more frequently among the water-drinking class than among those who resort to more potent beverages.

Infectious Diseases.—Twelve deaths from diphtheria and two from typhoid fever have occurred throughout the year. No scarlet fever has been reported, but an epidemic of that disease is evidently not far off, in which case an important question not yet brought before the Board will have to be considered. I refer to the exclusion of Mechanics' Institute books from families attacked with that disease. It is powerfully infectious and every precaution must be taken to prevent its spread. What more natural than to amuse a child recovering from scarlet fever with illustrated books, and what more likely than that the next family into whose hands the book falls will, if liable, take the disease without dreaming where it comes from.

Placarding of houses has been carefully attended to. Most families are anxious to have the cards removed at the earliest possible moment. This cannot be done until the house, clothing, bedding, etc., have been thoroughly disinfected.

Milk Supply.—There have been no complaints, and hence it was not deemed necessary to put in force the clauses relating to the supply of milk. However, vendors were notified that their places would be subject to inspection.

The bakeries have been, on the whole, well kept, and their water supply is rather better than the average.

Nicholls Hospital.—Following are the statistics of infectious diseases in the Nicholls Hospital during the past year, as kindly furnished by the Lady Superintendent :—

	Cases.	Deaths.
Typhoid fever	15	1
Diphtheria	11	1
Scarlet fever	2	..
Measles	1	..

Sanitary Work.—Appended is a synopsis of sanitary work done during the year. The chief and members of the police force have done their best as sanitary inspectors, but this year their more important duties have frequently interrupted the work :—

Yards examined	554
Water-closets examined	420
Yards found in good condition	125
Yards ordered to be cleaned	429
Manure heaps, hog pens, etc., removed	30
Notices served, dirty yards and closets	180
Notices served, garbage and refuse	75
Old wells cleaned	6
Dead animals burned	206
Houses placarded	23

J. CLARKE, M.D.,
Medical Health Officer.

Picton.

Medical Health Officer's Report.

For the earlier part of the year 1888, I have nothing special to report; a general good state of health prevailing in the town, with the exception of the advent of infantile disorders, as measles, scarlatina and whooping cough.

As the cold weather advanced, particularly during the month of October, there were many grave attacks of pneumonia, some of which terminated fatally. During the months of October and November there were fourteen cases of typhoid fever and two deaths. At the same time there were many cases of malarial fever, chiefly caused by the low water that obtained in a marsh at the southern limit of the town. The attention of the Council has been directed to this, and a committee appointed to take action relative to the drainage of the same.

In October a case of diphtheria was reported to me. The house was quarantined and every precaution taken to confine the disease to its limits; two of the inmates were affected, and the disease was confined to the house, all the inmates making a good recovery. It is worthy of remark that this disease was contracted by the father of the family and his son while visiting a house at Trenton, where diphtheria had prevailed some weeks before.

No general system of vaccination has been adopted here for the last four years, since an outbreak of small-pox at that time; consequently, a great number of the children attending the public schools are unprotected against an attack of this disease.

A by-law has been passed granting $30,000 for the construction of waterworks, but I consider the source from which the water will be taken to be impure and unfit for drinking purposes.

In conseqence of the increasing population of the town some wells have been contaminated with sewage matter, and have been prohibited, hence the necessity of having a pure supply of water for sanitary purposes.

HENRY B. EVANS, M.D.,
Health Officer.

PORT ARTHUR.

Medical Health Officer's Report.

I herewith beg to present my health report for 1888. We have enjoyed comparative immunity from disease this year, but this fact should not be placed entirely to the credit of the townspeople in general. Considerable difficulty has been experienced during the year in making certain parties come to time in the way of observing health regulations framed for the public good; some nuisances still exist which should not be tolerated for a week, though they were pointed out by me early in the summer. In this particular it seems to me that the Local Board of Health cannot hold itself blameless, as it has the power, *if it has the will*, to abate all nuisances. In sanitary matters the people of Port Arthur have not this year exhibited their usual strong good sense and discrimination. In proof of this assertion, we are confronted by the fact that we have had twenty cases of diphtheria this year, as compared with one last year. In at least 75 per cent. of these cases the nuisance which caused the disease was distinctly located, and after abatement of the nuisance the disease was choked off in that particular locality. It only once or twice occurred that a second case broke out in the same habitation, and all parts of the town seem to have been invaded at some date during the summer. It is true that we had only two deaths in twenty cases; but, in view of the foregoing fact, we are much more indebted to the kindness and indulgence of Providence than to our own good sense and forethought. If due attention to cleanliness had been observed, we would probably have had only four or five cases of diphtheria instead of twenty. Last year every one seemed cheerfully to follow the direction of the Board, and we had only one solitary slight case. Last spring we were, as a town, somewhat dirty and negligent, and, as a consequence, we had twenty cases of diphtheria! While this was very largely true of private yards and back premises, it is only due to the Town Committee of Works to say, that when the true state of affairs was represented to them in a letter from me to Chairman Smith, vigorous attempts were at once made to put the streets and ditches in proper order. I am told that about twelve miles of ditches were cleaned out, and many nuisances on the public highway abated. We have had also several cases of scarlatina, four of whooping cough and one of measles; but, with the exception of one case reported from the hospital, we have had no instances of fever. In the adjoining municipality of Oliver there was for a short time an epidemic of measles, which we escaped.

There has been no extension of our sewerage system since last report, when construction was going on; but of the benefits of what we have obtained in the way of efficient drainage we have had ample proof during the past summer.

Negotiations have been steadily carried on during the past year with regard to the construction of water-works for the town. The labors of those concerned in these negotiations have been crowned with success; a contract has been signed and all preliminary work will be begun this winter. The question of vaccination of the pupils in attendance upon the High and Public Schools overlooked last year, has been thoroughly attended to since the midsummer vacation; but no action was taken as regards the Separate School as the trustees omitted to notify the Medical Health Officer of their wish to have this matter attended to. Only one complaint has been lodged during 1888 of the adulteration of milk, and on examination it was plain to the eye that the sample in question had been grossly adulterated. General reference was made of the case at the time in the local daily paper, since which time there has been no complaint. I believe that the milk supply is in general pure and good; but, in the absence of the proper instruments wherewith to test the quality of the milk sold to us, no analysis has been made.

On the basis of the assessor's returns as to the population of Port Arthur, the death-rate for the twelve months ending 15th November, 1888, is exactly nine to the thousand. Last year it was twelve and a quarter. Probably no town of similar size in Canada can produce a more favorable report under this heading. This includes all deaths from whatever cause, in our hospital; and, also, several cases in which people came to town from outlying points to secure proper nursing and necessary comforts, nowhere to be obtained between Rat Portage and North Bay except at Port Arthur, and in which the patients lived only a few days after their arrival here. Such cases amounted to fully 30 per cent. of the total number of deaths; and as those who die in the hospital are nearly all waifs and wanderers from all parts of Algoma, and never saw Port Arthur till the prospect of death was before them, the death-rate of the *bona fide* citizens of our town, who are included in the census, would not amount to much more than six to the thousand of the population. A cursory examination of the birth returns for the past year will show that they are somewhat incomplete. Hoping that any matter complained of in this report will receive attention, and will merit favorable notice in the next annual health report.

THOS. S. T. SMELLIE, M.D.,
Medical Health Officer.

PRESCOTT.

Secretary's Report.

The Local Board of Health appointed a Medical Health Officer and a Sanitary Inspector, whose duties commenced in the month of May.

At intervals during the season the Sanitary Inspector reported to the Local Board the sanitary condition of the town, which he found in a very satisfactory condition. He made several house-to-house visits, and the inhabitants of the town have at all times shown a cordial disposition to comply with the requirements of the Public Health Act and the suggestions of the Sanitary Inspector. As a consequence, we have been comparatively free from contagious or infectious diseases, with the exception of three or four cases of diphtheria, one of which proved fatal. These cases were scattered, and were not traceable to any cause requiring special attention from the Board of Health. It is gratifying to notice that the Medical Health Officer's services were not required during the year.

B. WHITE,
Secretary.

PRESTON.

Secretary's Report.

Last spring, as has been the custom in this corporation for twenty years or more, notices were posted up through the village ordering the annual and general cleaning up of all premises. The particular instructions contained in the notices were complied with to the satisfaction of the Inspector when he made his rounds.

During the year there has not been much to complain of as to the sanitary condition of our village, except, perhaps, a few malodorous pig-sties, and these the Inspector visited whenever he could feel the smell outside the statutory limit.

It is also a matter for congratulation that by-laws were passed and came into force on the first day of May last, prohibiting cattle from running at large, and compelling the owners of dogs to have them tagged and registered in the clerk's office.

The effect of these by-laws has been to greatly reduce the number of cows, and to a lesser extent, unfortunately, the dogs kept within the corporation, and to stimulate a comparatively new industry here, viz., that of milk peddling.

In connection with the milk business I might say that the trade is not yet under as proper a system of inspection and regulation as it ought to be, but trust that there will be nothing to complain of in this respect long before my next report.

I think that if it were suggested to the School Board that no pupil be admitted to the school without furnishing proof of successful vaccination, they would add one more to their nearly perfect rules and regulations.

I am sorry to state that the mortality for the year has been greater than usual, but I am pleased to add that the deaths were not caused by preventable diseases.

WILLIAM A. HUSBAND,
Secretary.

St. Mary's.

Medical Health Officer's Report.

In compliance with the requirements of the Health Act, I beg leave to present to you my report for the year 1888.

I am happy to be able to state that so far as reported to the Secretary, we have had no cases of contagious diseases whatever save one of diphtheria and one of typhoid fever. These were of a mild nature and made perfect recoveries, so that whatever unsanitary conditions may have been in the town this year, they have not been instrumental in doing any harm.

The Health Inspector, as usual, made a careful inspection of the town last spring, and succeeded in doing a great deal of good by directing the attention of our citizens to their duties in regard to cleaning up their premises and putting them in a good healthy condition, but although one visit might be enough for some persons to enable them to discharge their duties aright, there are others who would require several before they considered they had any right to make any move whatever. I think it would be well, therefore, if the Board would allow the Inspector to make several visits during the season, and see that the requirements of the Health Act are rigidly carried out in regard to cleaning out yards, privies, wells, etc. No excuse whatever can be offered by persons neglecting to do their duty in this important particular, because the council this year secured a location (by lease) for the depositing of all kinds of filth, and I have no doubt would do the same next year if asked by the Board of Health.

There were some matters to which I referred last year in my report, especially the sewer, that must still be occupying the attention of the Board, if they have not been dismissed from their minds altogether, for no attention whatever has been paid to them so far.

Milk is a diet specially adapted to children, and at a time of life when they are unable to resist the injurious effects of impure food. It is therefore of the utmost consequence that that only should be sold which has the different elements of its composition in normal proportions. An inspection therefore ought to be made of the cows giving milk, to see that they are all healthy, that they get a good supply of pure water, that they are properly housed and cared for, that the ventilation of the stables in which they are kept is what it ought to be, that they are kept clean, that no impurities of any kind are in or around the buildings that would have a tendency to taint the milk in any way,—in fact, it is impossible to be too particular upon this one article of diet. It is only necessary for any member of the Board to read section 113, sub-sections 10 and 11 of the Health Act, to ascertain his duty on this very important matter.

JOHN SINCLAIR, M.D.,
Medical Health Officer.

SIMCOE.

Secretary's Report.

Your Board of Health beg to submit the following report: No epidemic has visited us during the year. We have returns for seven months, in which time twelve deaths have occurred. On account of the former clerk's absence from town we were unable to ascertain the number of deaths in the preceding five months, but averaging the same the probable number will be twenty-one for the year. Very few complaints of nuisances have been made to the Board, but when made instructions have been immediately given to have the cause removed. A short time ago vaccination was recommended, and a proclamation was issued asking the inhabitants to give the same their prompt attention, which was complied with to quite a large extent.

N. C. FORD,
Secretary Board of Health.

SOUTHAMPTON.

Medical Health Officer's Report.

In presenting my annual report, I have to congratulate the people of the town on account of its freeness from disease. We have had no epidemics of either contagious or infectious diseases; but, although we have been free from these, the suburb known as Denny Mills, was visited with an epidemic of typho-malarial fever of a severe type. There were no deaths. The precautions taken prevented the disease from spreading.

In all cases the instructions of the Board of Health were willingly complied with.

WILLIAM SUMMER SCOTT, M.D.,
Medical Health Officer.

STRATHROY.

Medical Health Officer's Report.

In accordance with the Health Act, I beg leave to submit my report for the current year on the sanitary condition of the town.

At present we are pleased to be able to state that the general health of the inhabitants of this place is fairly good. There are few, if any, cases of fever remaining just now. Diphtheria, which at one season of the year threatened to give us a great deal of trouble and annoyance, has, so far as I am aware, ceased to exist. The number of cases was nineteen and the deaths eleven. The type of the disease which visited us at that time was of a very malignant nature, but by a judicious use of disinfectants, the isolation of the families as much as possible, and the carrying out of strict sanitary arrangements, we were enabled to confine the disease to the immediate neighbourhood of the outbreak.

It is difficult to account for the cause; it might be partly due to a want of proper drainage, as the locality in which the epidemic prevailed was low and the drainage very imperfect. In the early summer months we had not a very plentiful supply of rain, and followed by great heat, so that when the fall rains came on we had quite a number of typho-malarial fever, nearly all of which, however, were readily controlled by proper treatment. There was only one death, so far as I know, due to fever, and in that case the disease was contracted in a neighbouring town where a more serious form of the fever prevailed.

During the months of April and May a thorough cleaning of closets took place. The alleys and bye-ways were cleared of everything noxious and disposed of by the contractor of that work to the satisfaction of the Board and all concerned, as there were no complaints this year that I have heard of. As has been suggested in previous years, it would be well for the town to purchase a lot, so situated that it would not be in any way injurious and offensive to anyone, where all such refuse could be consumed or put to practical purposes for enriching the soil, etc. Some complaints have been made of parties depositing garbage and rubbish of all kinds on the sides of some of the leading roads adjacent to the town, thereby creating a nuisance. It would be well that in future the sanitary inspector be consulted before such material be left in that way, as to whether it be suitable for road purposes or not. There have, as in previous years, been complaints made as to matter thrown into the river by the woollen factory and tannery in the east end, which we hope may in some way be remedied the incoming year.

Before closing this report I might venture to call the attention of the Council to the advisability of securing a building that could be used as a hospital for a time when we are visited by epidemics of malignant diseases, so that isolation could be properly carried out by having those first attacked removed to where they could be properly looked after by a competent nurse or the mother of the family. The head of the family could then follow his usual occupation, and his residence need not be placarded; and very much of this outlay would be required for the support of the family, and the prospects of recovery very much increased.

Your Board of Health have, as in the past, done all they possibly could do with the means at their disposal for the relief of those in want or distress; and we hope ere long that sanitary science may be so thoroughly understood and practiced in this place that life may be prolonged and existence rendered less painful, disease diminished, rendered harmless or stamped out altogether.

G. HENDERSON, M.D.,
Medical Health Officer.

TRENTON.

Medical Health Officer's Report.

During the year we have had no serious epidemic, and have escaped well from the ravages of malarial and typhoid fevers, which, owing to the long continued drought, were so prevalent in localities similarly situated. I trust that to our efforts to enforce sanitary regulations some part of the good result is due. Diphtheria of a malignant and fatal type has prevailed in neighbourhoods not far distant, while we have escaped with comparatively few attacks and scarcely any mortality, only one case proving fatal; but the mere fact that we are never very long rid of this pestilence shows that something is wrong with our sanitary condition, which should incite us to greater watchfulness and activity for preventive measures.

The manner in which reports of contagious diseases are forwarded to the Health Office is still faulty, though an improvement on former years. The Board, having now printed blank reports supplied to all the medical men, may reasonably expect still better results in this direction.

Our water supply is a matter of grave concern. The supply to the lower portion of the town, derived from springs on the first terrace hitherto quite pure, will soon be contaminated by sewage, as houses with common privy-pits are now built on two sides of it, and the porous soil on the elevated portion supplied by wells, renders them dangerous. I fear, however, that but little attention will be paid to this most important matter, since so much money has been and has yet to be expended on the improvement of our water-power ; still it cannot be too early considered what are the best systems of both water-works and sewerage adapted to our needs and investigated by the Council and Board of Health.

With respect to our supply of milk, meat and other foods, I have instructed the Inspector to use the utmost vigilance in regard to its purity, which his enclosed report shows he has done.

At the time of licensing the milk vendors a thorough inspection of the cattle and premises, as well as an enquiry as to the food and care they received, was made by Mr. Preston, Veterinary Surgeon, and a favorable report presented. The butcher's shops were also examined and registered.

During the summer I reported to you the necessity for the purchase or lease of an hospital for contagious diseases in an isolated locality, as the experiment of Baker Island proved too expensive to be repeated, besides being inaccessible to ordinary conveyances.

More attention should be paid to scavenging the streets and squares, as well as the lanes in rear of stores and shops. It would pay the street committee to keep a horse and cart for this purpose, which could be used also by the Board of Health for the removal of the contents of earth closets, etc., which at present is a thing of some difficulty.

CHARLES McLELLAN, M.D.,
Medical Health Officer.

WHITBY.

Medical Health Officer's Report.

I have the honour to submit the annual report upon the sanitary condition of the Town of Whitby.

Owing to the sanitary measures adopted in the fall of 1887, we have had a comparatively healthy year. During the dry hot weather we had a few cases of typhoid fever of a mild type, none proving fatal.

In consequence of the unusually damp and humid weather prevailing this fall a few cases of sore throat and diphtheria were reported, when I endeavoured as far as possible to bring the Public Health Act into operation. The tile drain mentioned in my last report has been completed by the town council, and has proved effectual in removing the nuisance complained of by Principal Hare and others. The Inspector has continued to make the necessary inspections, and in required cases has caused privy-vaults to be closed up and dry-earth closets substituted.

Before the frost set in the closets attached to the Public Schools were thoroughly renovated and every precaution taken against disease. Finally I may state, as helping to prove our good sanitary condition, that the chairman of the Board of Health has not deemed it necessary to call a meeting of the Board for some months.

D. P. BOGART, M.D.,
Medical Health Officer.

WINDSOR.

Medical Health Officer's Report.

Another year of comparative freedom from contagious disease is a matter calling for profound thankfulness on the part of the people of Windsor. The number of cases reported and the number of deaths are by far the lowest since the establishment of the Board of Health. The record is as follows:—Scarlet fever, 26 cases, 4 deaths; diphtheria, 50 cases, 6 deaths.

The mortality from all causes from November 15, 1887, to November 15, 1888, was 134, being at the rate of 15.58 per 1,000, placing the population at 8,600.

On the appearance of small-pox in Buffalo, Toronto and other places in this Province, your Board appointed three public vaccinators and supplied them with vaccine from Dr. Stewart's establishment at Palmerston, but I am sorry to say that very few availed themselves of the services offered. Typhoid fever is hardly known here.

The water supply, which has received some notice this year, calls for further investigation. Samples for analysis were sent to Ottawa, and the Government Analyst gave a very favorable report, rating the water as the fourth purest of the samples sent to him for examination. Chemically the water is all right, but its biological character is not yet determined.

The large addition of 8,331 feet of water mains laid this year will be a great sanitary improvement, as it will bring the water within the reach of many who could not hitherto avail themselves of it, and it will form circuits where blind ends previously existed. It was a happy thought to put in a flushing connection from the new water main to all the sewers at the Wyandotte street crossing. It will go far to purify the sewers during the summer months.

While 2,932 feet of brick sewers, of an average diameter of 20 inches, have been constructed, I think it is a matter for regret that sewers were not put into McDougall street and Dougall avenue, both of which streets are thickly inhabited, and the people are compelled to maintain cesspools in their own yards or in the gutters in front of their houses. I hope that next year's council will deal with this matter. The council deserves the thanks of the Board of Health for the excellent work done in filling up the depression in the Pitt street sewer. It was a regular magazine of filth, but is now a comparatively clear stream. I understand that there is a deficiency in the law enabling the council to compel parties living on sewered streets to connect their premises with the sewer. I will ask the Provincial Board of Health to have this rectified, as it is a great farce to have a sewer constructed and then not used.

A recent report which I made to the Board of Education shews that in four schools visited there were 880 pupils on the rolls and only 782 seats. The minimum air space laid down by the regulations of the Education Department is 250 cubic feet of air space to each pupil. The average space in the schools mentioned is only 174 feet, and some of the rooms are as low as 94. This combines compulsory education with compulsory suffocation.

Milk inspection will be inaugurated next year, and in order to make it effective an increase in the annual appropriation will be necessary.

The butchers continue to slaughter on their premises and to empty the offal into the sewers. The entrails of animals in all shapes of decomposition, were some of the deposits in the depressed parts of the Pitt street sewer, and unless the police are held accountable in this matter the Board of Health cannot abate it. The work is done at night and the police alone can prevent it.

The late addition to the town of 262 acres, with a population of 600, will increase the work of the Board of Health, but it will also have a salutary effect in enabling it to place under systematic regulations a population which has hitherto taken very little pains to control contagious disease.

JOHN COVENTRY,
Medical Health Officer.

WINGHAM.

Secretary's Report.

Our town during the year has been entirely free from all infectious and contagious diseases. This is more than we expected at the beginning of the summer season, on account of the great nuisance which exists on one side of our town. This consists of a very large accumulation of dead and rotting timber and other rubbish, in what is known as Hutton and Carr's Mill Pond, on the River Maitland, between the Town of Wingham and the Township of Turnberry, and which has been collecting here for the last twenty-five years or more. It has now reached extraordinary dimensions, covering some 15 or 16 acres.

Owing to the obstruction of the natural flow, the water on the greater part of the pond has become stagnant and contains a large amount of rotten timber and other debris. In spring time dead horses and cows come floating down the stream at the "break-up," and contribute their carcasses to the general nuisance. During the hot season this pond emits a most disagreeable smell, polluting the atmosphere around it and increasing the danger to health.

We have endeavoured to get the County Council to remove this nuisance, under authority of the amended Municipal Act, 1888, relating to driftwood and fallen timber in streams forming the boundaries between municipalities, but so far we have been unsuccessful. The owners of the property on which the nuisance exists refuse to clear it away. The property at the present time is not worth anything. The removal would cost about $4,000. So far as we can see the Board has no means or power to undertake a work of such magnitude as the cleaning up of this pond, and it is likely to remain as it is until something serious is the result.

This is the only nuisance we have, otherwise the sanitary condition of the town is good, and has been well attended to by our Sanitary Inspector. We have no Medical Health Officer. If the members of the Board, other than the Mayor and Clerk, were appointed for three years instead of one, as at present, I think it would be a great improvement.* I don't know how it is with other municipalities, but outside of the Mayor and Clerk we have three new members appointed every year.

J. B. FERGUSON,
Secretary.

WOODSTOCK.

Medical Health Officer's Report.

I have the honour to lay before you my annual report for the year 1888.

I am glad to inform you that the by-law relative to the dry earth system, which came into operation last May, has been very generally complied with. No less than 150 vaults have been cleaned out and filled up during the year, and the earth closets used instead; upwards of 400 are now in use, so that the old-fashioned vault is almost a thing of the past. However, it will take some time before the people fully understand and appreciate the value of the system.

Your Board have held monthly meetings when thought necessary, and a great amount of good sanitary work has been done during the year, especially by your efficient Inspector.

Early in the year he made a house-to-house inspection, educating the citizens as to the propriety of keeping their premises clean, and the importance of cleaning out the wells. I am pleased to inform you that about 350 wells have been cleaned out during the year, thereby lessening the mortality very materially.

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*Under existing laws the appointments must be made every year, as soon as possible after the organization of the council in all municipalities.—[Ed. Reports.]

I cannot congratulate you on the extreme healthfulness of the town, especially during the months of September, October and the early part of November, as several cases of typhoid and malarial fevers existed, as well as a few cases of diphtheria. Every effort was made by your officers and Board, assisted by the medical men, to prevent the spread of these diseases especially the latter. However, the mortality has been low when compared with places of like size.

I have reason to believe that the above diseases were due to bad water, sewer gases, and marshy effluvia. I trust that your honourabe body will, as soon as possible, develop a scheme for the introduction of domestic water, as very many wells are dry during the hot season, and the water in the densely populated parts is almost wholly unfit for use; besides, with a constant supply of water the sewers could be constantly flushed, thereby lessening the danger from sewer gases.

I hope the sewage which has been pouring into Close's ponds for several years will be removed as soon as possible.

These measures being properly adopted and fully carried out, there is no reason why we should not be almost free from very many fatal diseases.

I would also inform you that I have during the year made two inspections of the milk sold, reporting the results of the same to the press.

I am confident that the dairymen and citizens will reap a benefit thereby.

ARCHD. McLAY, M.D.
Medical Health Officer.

VILLAGES.

ACTON.

Chairman's Report.

I have much pleasure in stating that the duties of the Board have been very light indeed. The requirements of the Public Health Act with reference to the sanitary inspection of all premises within the municipality, were duly observed. The Sanitary Inspector performed his duties carefully and to the entire satisfaction of the Board. He found the municipality in a good sanitary condition generally. A few violations of the law were found, but after due notice from the inspector the irregularities were remedied. A matter upon which I feel bound to congratulate the municipality is the fact that, during the three years which have elapsed since the organization of the Local Board of Health, the services of the Medical Health Officer have never been called into requisition through the appearance of dangerous contagious disease, the municipality being entirely free from such misfortune during that period.

H. P. MOORE,
Chairman.

ALVINSTON.

Medical Health Officer's Report.

This village has been remarkably free from disease throughout the whole year. Two cases of typhoid were reported, one of them fatal. Several cases of scarlatina were also reported; there was no death from this cause. Diphtheria was limited to a few cases, all recovered. Isolation and disinfection, though not enforced to the full extent of the law, yet proved sufficient to limit these diseases. Both scarlatina and diphtheria had been endemic here twice in seven years, hence no doubt the little tendency to spreading this year.

When the Board was organized four years ago, a strong effort was made to introduce dry earth closets, in obedience to the recommendations of the Provincial Board. Much opposition was encountered. The change was opposed in quarters where the Board reckoned on moral support. The system was pretty generally adopted, notwithstanding this opposition. The inspectors it would seem relaxed their vigilance after the first year, for the inspector for the present year informs me that not many over a third have continued the dry earth plan. This is a little strange, since the cleaning of privies every spring is compulsory, rigidly enforced and somewhat expensive. The dry earth plan is clearly much cheaper, and therefore should be acceptable to the very class who most generally object to it, the poor. Most families of this class residing in a small place have a garden plot, and therefore should have no difficulty in disposing of the contents of the boxes. One serious difficulty, however, in the working of the system, which I never saw noticed, is this: What is the chambermaid to do with the bucket she carries outside in the winter season, or for that matter in any season. She cannot pour it into the dry earth box, for it would be full in a day or two, and the contents would become one mass of ice, and could not be emptied before spring. Nor can she be allowed to throw the contents in any other convenient place. Now what is she to do? The question is difficult to answer. Those who keep a horse or cow have a manure pile, and it is their custom to empty the chamber bucket there, soon to be carried off to the fields. But all are not so fortunate. Indeed but few can get over the difficulty in that way. Even in summer the difficulty is not easy to overcome. It is at this point that the system breaks down. It is clear that two receptacles are needed. How can a second one be provided? To construct a kind of filter box over a pit, at a safe distance from the well, would not meet the case. That would simply be an attenuated privy.

The sanitarian meets no question more difficult than that relating to the water-closet. Could wells be dispensed with, the task would be made a good deal easier, but that is out of the question in small places. In this village the water is found near the surface. The wells are dug through loose earth and sand to a depth of eight or ten feet. Unless the well be water-lined surface water finds its way into it. That is certain. I would not like to trust even to water-lining. Breaks will gradually occur. Clearly then our well water is more or less impure. This impurity is in the ratio of the amount of filth permitted to enter the soil. Water-tight wells, wells only receiving the water from the bottom, are fairly safe on account of the distance the surface water must traverse before getting into the well; but I doubt if one such well can be found in the whole village. Owing to the nature of the ground on which our village is built, it is apparent that more than ordinary watchfulness is necessary. Unless cleanliness is observed and steadily maintained, our wells will become more and more contaminated, and in due time we shall witness endemics of typhoid fever and other diseases decimating our population. I congratulate the board on its good work so far, and offer these notes of warning only as a stimulus to continued vigilance and unwearied action. What has been done this year must be repeated next year, and even more. "Eternal vigilance" is said to be the price of liberty; it is no less the price of health and longevity.

A. MacKINNON, M.D.,
Health Officer.

Ancaster.

Medical Health Officer's Report.

The Sanitary Inspector and myself made a thorough inspection of all slaughter-houses, dairies and cheese factories in the township, and saw that they were kept in a cleanly condition during the summer. We also visited all houses and water-closets in the village and directed the owners to clean up, and use disinfectants; and through those means of prevention our municipality has been free from any epidemic. The public schools were also carefully inspected.

HENRY RICHARDSON. M.D.,
Medical Health Officer.

BELLE RIVER.

Medical Health Officer's Report.

In presenting my annual report, I congratulate the people of our small village on their immunity from any epidemic of either contagious or infectious diseases during the year.

I am not aware of any person having been vaccinated within the village during the year.

The system of drainage which is being carried out is doing much towards removing malaria from our midst; few malarial cases have shown themselves this season, and of a mild form, while formerly they were very prevalent.

All we want now is the drainage of the two ponds existing in the Grand Trunk Railway yard, and also along the track, principally east of the river.

I hope that it will soon be done by the railway company.

ULRIC GABOURY, M.D.,
Medical Health Officer.

BRUSSELS.

Medical Health Officer's Report.

During the year the Health Board has been active in looking after the sanitary condition of this district.

The usual complaints of offensive premises, neglected privies and defective drains, were fewer than in previous years; while pollution of the river adjacent to this municipality, testing and microscopically examing the purity of the drinking water from some wells, were new features of the work allotted to your Medical Officer. In all cases the remedies as far as practicable were applied to abate the nuisance.

More than the usual variety of contagious and infectious diseases has existed in Brussels this year, the mortality being small. Typhoid fever cases have been also more numerous this past autumn. The origin of the increase is probably due to the unusual dryness of the summer months, the diminished rainfall causing many wells to become dry, and a scarcity of wholesome drinking water, especially in the southern part of the village.

I would cordially thank the members of the Health Board for their cheerful readiness to attend to all the requests and suggestions made by me.

F. G. HOLMES, M.D.,
Medical Health Officer.

CARDINAL.

Medical Health Officer's Report.

I have the honour to report that the health of the municipality has been exceptionally favourable this year. We have been visited by no serious contagious disease.

The usual steps were taken in the early part of the year to place the premises of the residents of the village in a proper sanitary condition. Drainage was duly inquired into, and made efficient.

A few trivial complaints were made, which were promptly attended to by the Sanitary Inspector.

Your Board are to be congratulated on the favourable results of their efforts this season, and may feel encouraged to proceed in their work for the future with the same diligence that has guided them in the past year.

DUNCAN GOW, M.D.
Medical Health Officer.

CHESLEY.

Medical Health Officer's Report.

I am pleased to be able to report the general health of the municipality good, and that the year has been exceptionally free from contagious or infectious diseases. There have been a few isolated cases of zymotic diseases, but not epidemic. The great fire which almost entirely destroyed the business part of the village, while it caused very heavy financial loss to those interested, has doubtless resulted in very great sanitary benefit; and we have to-day the basis from which the most perfect system of sanitary protection can be formed of any place in western Ontario. I would suggest that the Board take advantage of the opportunity, and organize a plan which shall prevent the careless and filthy habits into which some are prone to lapse, and which are so offensive to good taste, and so injurious to the public health.

HECTOR A. BONNAR, M.D.,
Medical Health Officer.

CHIPPAWA.

Secretary's Report.

In accordance with the requirement of the Public Health Act, I have the honour to forward a report of the sanitary condition of the village of Chippawa.

We have had a few cases of diphtheria, one of which proved fatal. We have had several cases of measles and whooping cough of a mild nature; also a few cases of malaria, which were successfully treated by our Medical Health Officer.

On account of the small-pox being prevalent in the city of Buffalo, only 22 miles distant from this village, the Board of Health thought it necessary to have a general vaccination, which was successfully carried out by our Medical Health Officer. One hundred and seventy-four persons were vaccinated, the municipal council defraying all expenses.

WM. GREENWOOD,
Secretary.

DRESDEN.

Chairman's Report.

The Local Board of Health held its first meeting April 20th, 1888. The Board caused a thorough inspection of the sanitary condition of the town to be made, and every sanitary defect has been promptly remedied by the parties whose duty it was to attend to the same. The Board is pleased to be able to report that no deaths have occurred from contagious diseases, and that altogether only four cases have been reported to the secretary. Notwithstanding the dry, hot weather and scarcity of water in some localities, the health prevailing is remarkably good.

R. P. WRIGHT.
Chairman.

DUNDALK.

Medical Health Officer's Report.

It affords me pleasure to be able to report favourably of the sanitary condition of our village. During the last year we have been exceptionally free from what is known as preventable diseases. This has, no doubt, been due in large measure, to the precautionary measures taken by your Board in the house-to-house visits made with the object of having wells cleaned out, back yards, water closets, etc., properly attended to. With but few exceptions the citizens have been praiseworthy in their compliance with the law in these matters. The reprehensible practice adopted by a few of having their privies connected with the drain running through the village, I am glad to know you very promptly checked. There is one avenue in which you might righteously expend some of your latent energy. I refer to a nuisance, now of long standing, viz., the *tannery*. Situated as it is on our leading street—where it never should have been—one would expect that special efforts would be put forth by its owners to have it free from those offensive odours which now almost stifle one as he passes. The injurious effect it must have on the health of those in its immediate neighbourhood—to say nothing of the unpleasantness—may be readily imagined. I deem it my duty, therefore, to advise the Board to take such steps as it may see proper to have said nuisance attended to, in so far as it is possible and expedient.

With regard to our more common disease, diphtheria, at one time the bane of the youth of this locality, has been almost extinguished, such cases as we have had being of a very mild type. No cases of scarlet fever have been reported. Diarrhœa among children during the last summer has been mild, and, so far as I am aware, without a fatal case. Typhoid fever, with one exception, has been unknown. In this case, which, unfortunately, had a fatal termination, there is good reason to believe the disease was contracted in a neighbouring village. Whooping cough has sprung up within the last few months, and at present is somewhat prevalent. There has been one death from this disease—a complication of pneumonia being the chief factor in the issue. In conclusion, considering the exalted situation of Dundalk—said to be the highest point in the Province—and its inhabitants enjoying the fresh and invigorating breezes from our northern lakes, we have reason to expect, with fair efforts on the part of our health officers and the assistance of our municipal council, the citizens generally to experience in the future the same immunity from disease we have had during the last year.

JAS. McWILLIAM, M.D.
Medical Health Officer.

EMBRO.

Medical Health Officer's Report.

In compliance with the statute in that behalf, I beg to submit my annual report for the current year.

I have to congratulate the Board on the happy immunity of our municipality from any contagious disease or nuisance which would necessitate the interference of your authority. This is in pleasing contrast to some less favoured localities. There has not been reported, and it is believed there has not occurred, a single case of those contagious diseases dangerous to life.

All slaughter houses have been removed beyond the limits of the corporation, and the only one now existing is kept in an excellent state of cleanliness.

The dry-earth treatment of night-soil, prescribed by your honourable body, has been very generally adopted, and to this cause I in great measure ascribe our phenomenal exemption from epidemics of a virulent disease. In this connection I would compliment the wisdom of our municipal councils, present and past, in refraining from underlaying our streets with those sinks of disease, breeding-filth-sewers, to which so many of our towns and cities owe so much of unenviable notoriety for disease and death. Sewers are but the receptacles and vehicles for the dissemination of the germs of the most dreaded epidemics of disease.

Our milk supply has been so satisfactory that there has been no occasion for the inspection of it or the issuing of licences to its vendors.

The only visitation of any kind of epidemic disease we had during the year, was that of malarial or intermittent fever, of a rather mild type, and quite amenable to anti-periodic treatment, the first cause of which seems to have been due to direct importation from abroad. This was its first appearance for the past fifteen years, so far as I can learn. In the absence of more serious matters for our consideration, I might direct your attention to its mode of propagation. There is no doubt but, like other epidemics, it has its origin in a microscopic parasite, whose germs, floating in water or vapor find a favourable hatching-nest in putrid deposits of any kind, and then multiply with inconceivable rapidity, and attack the bodies of those who swallow them. In places of high temperature and uncleanly surroundings, the disease becomes extremely fatal under the name of congestive chills. That it did not become more severe or widely diffused here, speaks much for the purity of our water supply, and the general cleanliness of premises.

J. ROSS, M.D.,
Medical Health Officer.

FERGUS.

Medical Health Officer's Report.

In submitting my annual report as medical health officer of the Village of Fergus, I am pleased to be able to say that we have been comparatively free from all contagious or infectious diseases. We have had scattered cases of diptheria, two of which proved fatal, but there was nothing approaching the nature of an epidemic, the cases occurring at different times and places. Of the typhoid fever cases, there were also two fatal. The milk supply was blamed for a time, but other circumstances made it most unlikely that this was the cause. In fact there was no traceable cause in this way ; we are probably correct in attributing the origin of the outbreak to the small amount of water in the Grand River at the time, and the consequently large amount of decaying organic matter left exposed in its bed, an occurrence which the Board could not in good judgment attempt to remedy. Only very few complaints of nuisances have been made ; these in every instance have been attended to without delay. Small nuisances may have existed for some time, and if so parties knowing of them are to blame for not reporting them at once, as it can hardly be expected that the Board can know of all such of itself ; and were complaints made early the work of the Board could be made much more effective.

I would again call the attention of the Board and Council to the necessity of having dry-earth closets, with regular removal of all refuse and the closing of all cesspools, etc., throughout the village, as it is impossible to have pure water from wells in close proximity to the forbidden holes and closets now too frequently existing. In order that this might not be a tax on the community, I would suggest that the refuse be given to any person willing to take charge of its removal on account of its land value. Arrangements for this should be completed during the winter, so that cleaning out could be enforced early in the coming spring.

W. H. JOHNSON, M.D.
Medical Health Officer.

GLENCOE.

Secretary's Report.

In conformity with the provisions of the "Public Health Act," I beg to report as follows : The sanitary condition of our village, and the health of its inhabitants have been better during this year than in former years.

Our people with a few exceptions are alive to the importance and necessity of cleanliness; and in the early part of the spring make a through "cleaning up" of their back yards. An occasional reminder from our Sanitary Inspector has proved sufficient to keep the sanitary condition of our village fairly good. Although in the adjoining townships there have been several cases of diphtheria and typhoid fever, our village has escaped both.

GEO. M. HARRISON,
Secretary.

MILVERTON.

Secretary's Report.

Early in the spring the Board caused the Sanitary Inspector to call upon the villagers and notify them to clean up their premises. This with very few exceptions was cheerfully complied with.

Several complaints were made with regard to a slaughter-house and hog-pen in connection with a cheese factory, both of which are situated within the limits of the village, but no action has been taken in the matter further than passing resolutions at the sittings of the Board, and the nuisances still exist. The stench arising therefrom during the warm weather is enough to cause a plague.

The Medical Health Officer has not attended a meeting of the Board during the year, nor has he made any returns of the existence of contagious diseases.

There have been several deaths from diphtheria or diphtheritic croup, measles has been in almost every family during the months of September, October and November, and there have been a few cases of typhoid fever.

The mortality during the year has been higher than any since incorporation, in 1881.

W. D. WEIR,
Secretary.

NEWCASTLE.

Chairman's Report.

The Chairman inspected the southern division of the village and found it in a very good and sanitary condition, with the exception of one well, which the owner agreed to clean out. He also ordered the fishermen to bury all entrails taken from fish in the summer months, and also to bury all fish washed up on the beach.

The officers of the centre division states that their division respecting the premises was found very good and clean, and water very good, with the exception of one water closet and one hog-pen, which were put in a sanitary condition.

The officers of the northern division report that the water on two of the premises was very bad. The proprietors of the premises had the wells cleaned out as instructed by the officers, and all other premises that were in an unsanitary condition were properly attended to.

JOHN TRELEAVEN,
Chairman.

NIAGARA FALLS, SOUTH.

Medical Health Officer's Report.

I have the honour to report that during the past year our municipality has not been visited by any epidemic; that there have been only a few isolated cases of diphtheria, and two cases of measles now in existence. Since the outbreak of small-pox in Buffalo, the compulsory Vaccination Act was enforced by your Board, and two hundred and twenty-two persons presented themselves and were vaccinated by me at the expense of the municipality. The Sanitary Inspector reports the village free of nuisances.

JAS. McGARRY, M.D.,
Medical Health Officer.

OIL SPRINGS.

Medical Health Officer's Report.

Our village has been free from infectious disease during the past year. There has been one case of typhoid fever, mild in character, but the utmost vigor was used to prevent its spread, which we haply succeeded in doing. The Board of Health here has done good work during the year, yet the village is in an unsanitary condition, this being the first year that anything at all has been done to prevent disease and its dissemination.

A. R. HANKS, M.D.,
Medial Health Officer.

POINT EDWARD.

Secretary's Report.

Notices to the people to put their respective places in sanitary order were issued in the spring, and copies of the pamphlet for checking the spread of contagious or infectious diseases were delivered to each house in the village. The Board has been active during the year, and have taken every precaution for the health of the village. There were twenty-five cases of scarlet fever of a mild type during the winter and early in the spring, from which one death occurred. In every case the dwellings were quarantined, and on removal of quarantine were thoroughly disinfected and fumigated. During the summer months the health of the village was good. There were a few cases of typhoid fever during the fall of a mild nature. Five cases of diphtheria broke out in the latter part of the fall, from which one death occurred. In those cases every house was quarantined, and on recovery of the patients the houses were disinfected and fumigated. At present writing there is not a case of an infectious disease in the village. The School Board, on receiving their notice in the spring, had the public school thoroughly cleansed and fumigated. This was repeated during the summer vacation. The heating and ventilation of the school is on the Smead-Dowd system.

W. MITCHELL,
Secretary.

PORT ELGIN.

Medical Health Officer's Report.

In submitting my annual report for the year 1888, I have pleasure in stating that very few, if any, cases of disease prevailed due to the association of unsanitary surroundings. The usual orders for cleaning up, issued by your Inspector in the spring, were very generally and cheerfully complied with.

During last winter we were visited by an epidemic of measles, which proved to be exceedingly mild. No cases of typhoid fever of the ordinary severe type occurred, notwithstanding the prevalence of fever throughout the Province during the past autumn. A few nuisances were complained of to me, and in all such cases measures were taken promptly for their abatement or removal.

In conclusion, I congratulate you upon the sanitary perfection of the town.

J. A. McARTHUR, M.D.,
Medical Health Officer.

PORT STANLEY.

Secretary's Report.

In compliance with the Public Health Act, I have the hononr to report that the Board of Health held two meetings during the year. Early in May the Inspector made a thorough inspection of the village and ordered all nuisances abated, which, I believe, in most cases was done. The sanitary condition of the village for the past year has been first-class, no deaths occurring from epidemic or contagious diseases, from which the village has been entirely exempt up to November, when two cases of typhoid fever of a mild form occurred; they are now convalescent. Whooping cough also prevails to some extent at present, but it is not of a dangerous character. The Medical Officer informs me that he has no report to make.

JAMES GOUGH,
Secretary.

PORT COLBORNE.

Medical Health Officer's Report.

As Medical Health Officer for this village, I have the honour to report as follows:—This municipality has enjoyed immunity from contagious diseases during the past season, which may be characterized in every aspect as one of unusual good health.

Owing to the existence of small-pox in the city of Buffalo, a proclamation was issued with reference to public vaccination. A willing and most creditable response was given by the public, a majority of whom were successfully vaccinated.

J. B. NEFF, M.D.,
Medical Health Officer.

PORTSMOUTH.

Secretary's Report.

In accordance with the provisions of the Public Health Act, I have the honour to report that early in the year the usual precautionary measures were taken for the cleansing of yards, cellars, outbuildings, privy-vaults, etc., which were fairly well complied with under the supervision of the Sanitary Inspector.

At the request of the Board the Council expended a small sum in cleaning out the main village sewer.

There have been no known diseases of a contagious nature, and it is gratifying to state that the general health of the village has been good during the year, consequently the appointment of a Medical Health Officer was not considered necessary.

THOS. KELLY,
Secretary.

SEAFORTH.

Secretary's Report.

Boards of Health have an uphill work in getting the public generally to realize the necessity of any change in the existing and old established state of sanitary matters. Ignorance of the danger to health arising from the ordinary methods of disposing of offensive and refuse matter, coupled with an unwillingness to go to any trouble or expense in the removal of the same, and a disregard of the comfort or welfare of others, are the chief hindrances to improvements in sanitary matters. I am entirely opposed to the system of carrying away unsanitary matter by means of drains. The drains must empty somewhere, and wherever they do empty there the nuisance crops up again.

Everything calculated to endanger health, and which is capable of being converted into manure, should be deodorized by such substances as sifted ashes, dry earth, etc., and carted away to the worn-out fields which exist everywhere.

It would almost seem that the boasted intelligence and advancement of this nineteenth century is hardly able to cope with the sanitation question; our largest cities seem to be little, if any, in advance of the towns and villages.

WM. ELLIOTT,
Secretary.

SPRINGFIELD.

Secretary's Report.

In presenting you this report of the Springfield Local Board of Health, I may say that we have a Board of Health properly organized, and that on or about the 20th of May we made a thorough inspection of the sanitary condition of this municipality, visiting the slaughter-houses, cellars, shool house, etc., and wherever we found the sanitary surroundings not as they should be, caused the same to be remedied. We have had but one case of scarlatina and one of diphtheria, both of a mild type. Our Medical Health Officer, Thos. McEwen, M.D., has done much in assisting the Board to carry out the provisions of the Act.

J. B. LUCAS,
Secretary.

STREETSVILLE.

Secretary's Report.

I have the honour to transmit to you the following report of the sanitary work done here during the year, and of the sanitary condition of the municipality:—

Seven meetings of the Local Board have been held during the year.

A general house-to-house inspection of the village was made by the Sanitary Inspector in the month of May. While most of the dwelling houses and premises (as the Inspector reported) were found in a satisfactory condition, still in a considerable number of instances nuisances were met with dangerous to the public health. The most frequent causes of complaint were neglected privy-pits and damp and foul cellars.

Where such nuisances or unsanitary conditions existed directions were given for their removal forthwith, and a subsequent visit was made to the premises for an assurance that the directions had been complied with.

The drainage on Mill street was found defective for want of a proper depth and fall to the ditch, and culverts carrying off the water to its proper outlet. This matter was referred to the council to be remedied.

In September the Board instructed the Inspector to make another inspection throughout the municipality, for the purpose of having all premises therein put in a proper sanitary condition before the approach of the winter season.

The health of the municipality was generally good during the first ten months of the year. There were no cases of infectious diseases during that period, with the exception of two cases of typhoid fever in September, one of which at least was contracted elsewhere, the patient coming home ill with the disease, and the other case was a very mild one. About the first of November there occurred an outbreak of diphtheria in the municipality. There have been eighteen cases and two deaths.

As soon as the outbreak appeared to be extending the public schools were closed, and the steps prescribed by the Public Health Act were taken for isolating persons infected with the disease.

The Sanitary Inspector, too, was sent on a house-to-house visitation throughout the village with instructions to householders to cleanse and disinfect their premises.

There has been only one new case during the last week, and it is believed the progress of the disease has been checked.

In reference to the cemetery question, which has been agitated during the last five years, nothing has been done towards providing a new cemetery in a suitable situation in place of the present overcrowded burial ground within the municipality, and nothing seems likely to be done until the municipal council passes a by-law prohibiting any more interments in the present burial ground.

As to slaughter-houses within the municipality, to which reference has been made in previous reports, the matter is in as unsatisfactory a state as ever. Last April the Sanitary Inspector gave notice in writing to the two proprietors of the premises in which the slaughtering of animals is carried on in this village, requiring them to desist from carrying on the offensive business within the limits of the municipality. The business appears to be still carried on, however.

It is plain that the matter of the overcrowded cemetery and the slaughter-house nuisance, which are two standing dangers to the health of the municipality, will have to be dealt with by the council and the Local Board of Health in a decided and vigorous manner.

WM. J. PINNEY,
Secretary.

THAMESVILLE.

Secretary's Report.

The Local Board of Health for this corporation reports as follows :—

That there has been a regular inspection of all premises, public and private, at various times. The sanitary condition of the village is and has been good during the current year. There has been no infectious or contagious disease in the municipality. There is no Medical Health Officer appointed.

J. DUNCAN,
Sec. L. B. of H.

VIENNA.

Medical Health Officer's Report.

The sanitary condition of this municipality during this summer, as far as it has come under my especial observation, has been good. That no disease, infectious or otherwise, has been prevalent in this village, and that the present state of the health of the community is exceptionally good.

J. H. HOOVER, M.D.
Medical Health Officer.

WATERDOWN.

Medical Health Officer's Report.

This year, as in the past, we have every reason to feel thankful that we have not been visited with any widespread cause of mortality or sickness. We have had very few complaints of nuisances, and where there were any made the cause has been looked into and speedily remedied.

I am happy to state that the municipal council of the village of Waterdown, so far as I am able to judge, is as anxious and willing to have the sanitary condition of our village kept right as they are to the improvement of streets and sidewalks.

We have had no diphtheria, whooping cough, measles or small-pox. I have had some six or seven cases of scarlet fever come under my notice during the year, all of which were of a mild form. There have been some six or seven cases of typhoid in the village during the year. The cause of the last named disease should at the present time be the subject of your especial attention in this village. It is undoubtedly the result of some disregarded law of health. Among the most prevalent causes I might mention the bad condition and position of privy vaults; the unclean and very badly kept yards, and the great danger that exists from the water and the atmosphere being contaminated by them; decaying vegetable matter, animal matter, manure, pig pens, etc.

I think it but right that the Sanitary Inspector's duties should be to inspect all privy vaults, cellars and back yards at least twice every year in a village such as this; and that he be empowered with authority to see that they are kept clean, and that he be paid well for it.

J. A. McGREGOR, M.D.
Medical Health Officer.

WESTON.

Secretary's Report.

I have the honour to present herewith the annual report of the Local Board of Health for the village of Weston.

Our Local Board was duly formed early in the year, and a Medical Health Officer and a Sanitary Inspector appointed. The latter officer made regular visits to the slaughter.houses and hotels, and his reports to the Board were highly satisfactory. A largely signed petition praying that the cemeteries within the limits of the village be closed immediately, was presented to the Board. I was requested to present the same to the village council, which I did. That body passed a by-law forthwith prohibiting burials in said cemeteries after the 31st December, 1888. I am pleased to state that the sanitary condition of the village during the year has been excellent, there being only one case of contagious disease reported. Prompt means were taken and the disease stamped out.

R. H. LEIGHTON,
Secretary.

WEST TORONTO JUNCTION.

Chairman's Report.

The Local Board of Health was organized in January last, consisting of five members. The village council also appointed a Sanitary Inspector and a Medical Health Officer.

The Board met six times during the year, principally for the purpose of putting the village in a good sanitary condition, which we are pleased to say has been accomplished through the efforts of the Sanitary Inspector, he having inspected all yards and lanes in the corporation and reports that they are now in a clean condition. We would recommend the council to re-appoint the present Sanitary Inspector, Mr. E. Ward.

Dr. G. W. Clendenan, Medical Health Officer, reports that, fortunately, during the course of the year the village has been exceptionally healthy. A few cases of typhoid fever and diphtheria have been reported, but no deaths among the number. He considers the village in a satisfactory state at present. We also desire to say, with pleasure, that the municipal council have ably assisted this Board during the year, and sincerely hope they will continue in the same course in the future.

JOHN STEWART,
Chairman.

TOWNSHIPS.

ADELAIDE.

Secretary's Report.

I have much pleasure in reporting that the township of Adelaide has enjoyed, as far as I know, a perfect immunity from any disease of an epidemic nature during the present year. Complaint was made to the Local Board of Health that some premises in the village of Kerwood required attention. They were inspected by the Sanitary Inspector and found in a condition not entirely satisfactory. In consequence of further complaints from the same quarter, the Sanitary Inspector was again called upon to inspect the premises, and the remedies suggested by him having been carried out no further trouble was experienced. The Board has met three times during the year. The sanitary condition of the township is good. Nothing else has come under my notice calling for further remarks.

WM. MILLER,
Secretary.

ALBEMARLE.

Chairman's Report.

I have the honour to present herewith the fifth annual report of the Local Board of Health for the Township of Albemarle, and at the same time I have the gratification of being able to report the entire absence from our township of all infectious or contagious diseases during the past year; in fact it has been by far the most healthful period that has been our good fortune to be blessed with since the first inauguration of a Board of Health for this township, only two deaths as yet having been reported. One of these was from old age, and the other from croup The services of our Medical Health Officer have scarcely been required, and in consequence the Board has deemed it unnecessary to ask him for a report for the year, thereby saving the expense of the same

ANDREW WEIR,
Chairman.

ALBION.

Secretary's Report.

I have the honour to inform you that the Local Board of Health for the Township of Albion have had nothing to do during the year now drawing to a close There has not been any outpreak of infectious or contagions diseases, nor has any notice been received of the existence of such diseases. The sanitary condition of the municipality is excellent.

ROBT. EVANS,
Secretary.

ALDBOROUGH.

Medical Health Officer's Report.

In compliance with the statute respecting "Public Health," I beg to report as follows :—

During the winter months a great deal of sickness prevailed—lung affections largely so, but nothing that could be called epidemic. A mild form of diphtheria appeared in the southern part of the township in the spring, being confined to one family ; so far as I was informed two deaths occurred. When these cases were reported to me the houses were placarded, and disinfection, isolation and other precautionary measures adopted which prevented the spread of the disease. About the same time measles appeared in one family and the house was at once placarded, with the result that the disease went no farther.

The summer months were ordinarily healthy. Dysentery prevailed to a limited extent through the centre of the township. This may be attributed to the drinking water, which is chiefly surface water and not of good quality.

Diphtheria again appeared last month in the southern part of the township and was of a very virulent type. It was confined entirely to No. 3 school section. Five deaths occurred therefrom, all being young children from two to five years of age. The disease still manifests a disposition to spread. I would strongly recommend to the Board to have this particular school closed till such time as the disease abates. Owing to the excellent drainage in this township, ague, which used to be so common, is now quite unknown. Malarial diseases are not so prevalent as in former years, and typhoid fever, so far as I know, has not appeared this year. Whooping cough appeared once during the year, but with no fatal results. On the whole there was a great deal of sickness during the year. I have reason to think that diseases of a contagious character have not always been reported, and would recommend that all cases of such be reported to the Medical Health Officer.

J. W. BROCK, M.D.,
Medical Health Officer.

AMELIASBURG.

Medical Health Officer's Report.

In submitting this, my third report, I congratulate your Board on the general good health that has prevailed throughout the township during the year, and the almost complete immunity from epidemic or endemic contagious diseases. We have had, it is true, a few cases of whooping cough, which only affected two or three families. Diphtheria visited one family in the eastern part of the township, which unfortunately resulted in two deaths, but no other cases of zymotic diseases are reported.

There has been no progress made in vaccinating during the year. People are so prone to procrastinate in this matter that only an immediate danger from an epidemic of small-pox, or vigorous action on the part of your Board in enforcing the provisions of the Vaccination Act will result in any material advance in this matter.

There have been no reports of any unsanitary conditions made during the year, nor has there been anything of importance to lay before the Board, thanks to the generally sanitary condition.

A. J. FILE, M.D.,
Medical Health Officer.

ATHOL.

Secretary's Report.

In submitting to you the annual report of the Township of Athol, I have great pleasure in stating that the sanitary condition of the township has been good during the year. There have been two cases of diphtheria within the last year, and in both cases the proper notices were placed at entrance to houses. The disease was not carried out of the house in either case.

We have no Medical Health Officer or Sanitary Inspector.

W. MOORE,
Secretary.

BARTON.

Chairman's Report.

In presenting our annual report we are gratified to state that for the greater portion of the year Barton has been very healthy, but during the last two months several cases of typhoid fever took place just outside of the eastern limits of Hamilton. Two deaths were reported. There have been three cases of scarlet fever, but all seemed to be of a light form. A very few cases of diphtheria have been reported.

The Sanitary Inspector has inspected private houses, slaughter houses and yards connected therewith, piggeries, tallow rendering establishments and oil works, fertilizing works, etc., and he reports that the slaughter-houses in most cases are reasonably clean; but as parts of the township are thickly populated, and as at times the butchers do not clean up properly after killing, thereby causing bad smells, we would recommend that the slaughter-houses and pigs in those places and along public roads where there is much travel, be removed to a distance of seventy yards from such roads, and not nearer than seventy yards to any dwelling house, school house or workshop.

The fertilizing works of Messrs. Rowlin & Co., and the tallow-rendering establishment of Mr. A. A. McKillop have caused considerable complaint from the residents of the neighbourhood. Although in both cases they have steam-tight iron tanks, and the exhaust pipes run into the waters of Coal Oil Inlet, yet the smell sometimes is very bad. Both claim that it is impossible to carry on their business causing less bad smells than there have been. We are of the opinion that if the proprietors of these establishments cannot carry on their business without causing so much annoyance to the neighbourhood, application should be made to the courts to have the business put a stop to.

There have been circulars sent to the residents of the township requesting them to comply with the Vaccination Act.

Night soil has been permitted to be brought into the township during the summer, the parties in most cases covering it with earth. In two or three cases proper care was not taken of it, and the parties receiving it were at once notified to abate the nuisance, which was complied with.

JOHN W. GAGE,
Chairman.

BEDFORD.

Medical Health Officer's Report.

It affords me much pleasure to be able to state that the duties of the Board of Health and Health Officer for the past year have been merely nominal, owing to the sanitary condition and general good health of the people.

There have been no contagious or zymotic diseases, except a few cases of measles and two or three isolated cases of typhoid fever, which occurred during the month of March.

A. W. DWYRE, M.D.,
Medical Health Officer.

BERTIE.

Medical Health Officer's Report.

In submitting my annual report for the present year, I am pleased to be able to state that our people have had a favourable year, and that no contagious disease has gained a foothold, though we have been threatened with small-pox, which has existed on our border for several months, and isolated cases of diphtheria, typhoid fever and measles have occurred during the year; but at the present time I am not aware of a case of either in the municipality.

It is my pleasing duty to report that the Council has been induced to take action toward bringing into force the Act in regard to public vaccination, and that we have now four public vaccinators who are authorized to vaccinate all free of charge, and that all the public schools have been visited by them, and that most of the pupils attending were vaccinated.

Reports will be made later in the year giving the number vaccinated, when I believe it will be seen that the most of our people have complied with the requirements of the Act.

I trust that our efforts to prevent the introduction of small-pox from Buffalo may prove successful, and that we may enjoy another year of immunity from contagious diseases.

N. BREWSTER, M.D.,
Medical Health Officer.

BEVERLEY.

Secretary's Report.

In presenting to you my fifth annual report of the Board of Health for the township of Beverley, I have only to say that the Board was appointed and held its first meeting in June last. The business of the first meeting was simply to organize and prepare for action when necessary. The Board meets to-day to wind up the business of the year. The number of deaths for the year thus far will be about fifty, one of typhoid fever, two of croup and two of whooping cough. About twenty of the total number were over the age of sixty years. I received two notices from Dr. Ross, of Dundas, of cases of diphtheria in a family in the south-east part of the township. I caused the usual notice to be posted up at the house. The patients recovered all right. On the whole I think the health of the township during the year has been fully as good as the average.

W. McDONALD,
Secretary.

BINBROOK.

Medical Health Officer's Report.

In accordance with the requirements of the statute I beg leave to submit my report. I am happy to say that the health of the township of Binbrook during the present year has been very good.

I congratulate the Board on the apparent—I feel assured I may say real—success attending the means taken by you to have the privies and wells in the different school sections of this municipality cleaned and put in a proper condition. I am able to report that there has been no epidemic disease among our school children after that work had been attended to. I am also glad to notice a growing feeling among private individuals of the necessity of having proper sanitary arrangements in and about their premises; and more, I feel confident their health has been sustained and improved by their attention to these important matters. It is to be hoped that many others may be stimulated to make like improvements.

In the erection of buildings in the country great attention should be paid to the following points:—

1. Proper ventilation.
2. Better drainage from cellars and foundations.
3. Privies further removed from wells and dwellings, so that there is no danger of the drinking water, or even that for ordinary purposes, being polluted.
4. Privies so constructed as to be easily cleaned out at proper intervals, and the use of the dry-earth system in the same.

There have been a couple of cases of typhoid fever, but by strict precautions and the free use of disinfectants the spread of the disease has been prevented.

In the early part of the year there were a number of cases of scarlet fever, measles, and two cases of diphtheria, all of a mild type.

In conclusion I would like to say to the Board that they must expect some opposition to the carrying out of their plans; it will take time to educate the people to a sense of their responsibility in these matters of sanitary reform.

I think it would be well to hold public meetings at a convenient time in the year, where the laws or statutes of the Public Health Act could be discussed, and all enlightened in regard to their duty in these matters.

M. J. MULLOCK, M.D.,
Medical Health Officer.

BLANSHARD.

Medical Health Officer's Report.

We have reason to congratulate ourselves that the health of the township has been so good during the past year. Diphtheria broke out in several places in the municipality during the year, and resulted fatally in several cases. Typhoid fever only appeared in two instances, one of the attacked died after a week's illness. Measles spread from house to house and from section to section during the spring months, but the epidemic passed over without being the cause of a single death. In a few cases very severe lung trouble resulted, threatening the lives of the sufferers. This disease is looked upon by the community at large as a very harmless epidemic disease, but facts prove the contrary, and those looking on this disease as such are labouring under a serious delusion.

It would be in the interest of the public if all medical men would comply with the requirements of the Health Act, and notify the local Medical Health Officer of such cases of contagious and infectious diseases as he may be called upon to attend.

The welfare of the community would be very much advanced if all the children attending the public schools who have not a proper vaccine mark, were vaccinated at the expense of the municipality. Inspection proves that a great improvement has taken place in the condition of the schools and their surroundings, but still there is much room for sanitary reform.

It has been urged by the central authority (and I think with very great reason) that a stricter supervision should be kept on slaughter-houses, with regard to the cleanliness of the places, disposal of the offal, and the slaughtering of diseased cattle; also regarding milk supply to factories, and the sanitary condition of such factories.

Hoping that we may be able to advance the interest of the public health to a greater degree than we have done in the past.

WILLIAM IRVING, M.D.,
Medical Health Officer.

Blenheim.

Chairman's Report.

In presenting you with our yearly report we have little to remark that will be of interest. General good health has prevailed over our township.

The members composing our Board are located conveniently in various parts of our large township, and each looks pretty well after his own section. During spring the Board formed committees consisting of two members each, and visited the cheese factory, school houses and slaughter-houses of our township, all of which were found in a very cleanly and satisfactory condition.

There was one case of diphtheria and one of scarlet fever reported from the south, but proper disinfectants and isolation soon stamped out the disease. Since our Secretary wrote you last, we have had a report from the north of the township of some diphtheritic cases, which happened some time ago but were only lately reported. Our reeve was in almost daily attendance on these cases, the best of disinfectants were used, the children were kept properly isolated, and the disease, although proving fatal to five children in this family, did not spread beyond it. The cause of the disease was supposed to be a defective drain. The same report contains reference to another family in which three cases are reported, two of them being fatal. One, a child 18 months old, died of septicæmia, the result of nasal diphtheria, and another one died some weeks after from paralysis. The disease did not spread further.

W. R. PENTLAND, M.D.,
Chairman.

Bosanquet.

Medical Health Officer's Report.

Acting upon the instructions of your Secretary I inspected the cheese factories and slaughter-houses in the township, and found them clean and in a good sanitary condition. This year the township was visited by an epidemic of influenza, making the death-rate higher than it is usually. Scarlet fever of a severe type broke out in some parts of the township, but did not spread owing to the precautions taken to isolate the cases, and keeping them out of the schools for a long time after they were convalescent. There were a few cases of diphtheria this year. I would call the Board's attention to the fact that small-pox has broken out in Sarnia, and few of the children of the township are vaccinated.

W. A. MUNNS, M.D.,
Medical Health Officer.

BROCK.

Medical Health Officer's Report.

Our report for this year, 1888, will of necessity be brief, as but little in the sanitary line has required the attention of the Board. Our municipality is to be congratulated on its comparative exemption during 1888 from epidemics, there being only about five cases of diphtheria and two deaths; fifteen of typhoid and two of scarlatina reported. A mild type of measles spread over the whole district, but it was so mild that a physician was rarely required, and consequently but few cases were reported.

JAMES McDERMOTT, M.D.,
Medical Health Officer.

BROOKE.

Medical Health Officer's Report.

Typhoid fever and diphtheria are ever on their rounds—a case here, several there, and a severe endemic yonder. This appears to be the condition of things in all the older sections of our country and of other countries as well. During the year there have been a few cases of these diseases in the municipality, but, so far as I am aware, no fatal case of either. There have been also several cases of scarlatina, but no deaths. A strange and prevalent delusion exists in regard to scarlatina. Most people believe in the existence of two distinct diseases, having some points of resemblance; one they call scarlatina, or "scarlet rash," the other scarlet fever. It should be widely known that medical authorities recognize no such distinction. Scarlet rash, scarlet fever and scarlatina are but different names for the same disease, the last mentioned being the technical or scientific name. The same poison produces all the symptoms and variations observed. When the disease is mild the symptoms are few and simple; when it operates more powerfully, these are are more severe and marked. The same may be said of diphtheria. This disease is often so mild as to pass for a very mild "sore throat." These "walking cases" of both diseases do more to spread infection than the more severe cases, because unsuspected. Even typhoid fever has its mild or "walking cases." A knowledge of these facts would lead to greater caution on the part of the more prudent, and greatly tend to limit the spread of infectious diseases.

In its short history the Provincial Board has done a great work. The people are being gradually educated to the importance of observing certain laws and regulations. Even an imperfect observance of the law has been often efficacious in limiting and stamping out the infectious diseases. The value of isolation and disinfection is just becoming known and appreciated; so that the time is not far distant when officers of the law will no longer meet with opposition, but on the contrary find their duties easy and pleasant to perform, because of the aid and willingness of a well informed and rational people.

Within the area known as the St. Clair district, malaria, of course, prevails to some extent at all times and places, but in this section it is never of a malignant type. Even in this respect great improvement has taken place during the past few years. This change is chiefly due to the extensive system of drainage undertaken by the municipality at the cost of much trouble and money. The primary object was the reclaiming of several square miles of rich, low-lying lands within the bounds of the municipality, but the great water-courses thus constructed could not fail to exercise a highly beneficial sanitary influence.

Sanitarians tell us that the greatest danger to health and life is found in the water we drink. Of the truth of this there can be no doubt. The greatest danger to health on the farm, therefore, is the *well*. Too much stress cannot be laid on this fact. The carelessness often displayed in the construction of wells is truly amazing. No attempt is made at excluding surface water, and not infrequently they are found in the barn-yard, or in close proximity thereto. And yet people will be surprised if people sicken and die, or one of the children is suddenly prostrated with diphtheria! Medical men should make the construction of wells and the contamination of water something of a study, with a view of spreading information regarding a matter so directly affecting the health and the lives of the people.

Another, though a lesser source of danger on the farm, is the running stream. No matter how limpid and inviting to the thirsty, it is the sure carrier of disease and death. In the early times when no one lived on the "banks beyond," the water in the "babbling brook" was pure and wholesome; but the aggregation of population has wholly changed the conditions. The banks which were then in virgin purity, are now covered with towns, villages and farm-houses. From these banks now issue into the running stream town sewerage, barn-yard drainage, and every kind of filth As if this were not sufficient to fill the bill of abominations, the stream is made the common receptacle of the dead carcases of all manner of beasts! Who can wonder that death is found in the sparkling brook? Not a summer passes but horses and cattle perish along the course of the Sydenham from dysentric fever, caused by the impurity of the water. Nor are human beings wholly exempt from this danger, especially in seasons of drouth, as the following will show. Several members of a family were almost simultaneously attacked by a mysterious disease, marked by fever, a pustular eruption, (some of the pustules assuming the size of boils) and a marked tendency to pleuro-pneumonia. Two deaths took place, one of them directly due to this cause, and the other at least remotely so; while others of the family were in imminent danger. The surroundings every way appeared excellent, indeed faultless. The well was so placed and constructed that contamination of its water was well nigh impossible. But, unfortunately, it had gone dry. The want thus created was supplied by pouring into it several barrels of clear Sydenham water, there to be cooled and pumped up as needed for all household purposes. What was hitherto enveloped in much mystery now became clear, and needed no further research.

The conclusion to be drawn from these illustrations, as well as from other incontrovertible evidence, is this: the water of streams running through a populated country is impure beyond description, and unfit for the use of either man or beast. This fact should be everywhere known and proclaimed. Let no one be deluded into the belief that cold, winter weather purifies such waters, or that the impurities are lost in the formation of ice. The farmer, no less than the residents of small places, must depend upon wells and cisterns. When these are well guarded against contamination nothing more remains to be done, and nothing more is desired.

ANGUS MACKINNON, M.D.,
Health Officer.

BRUCE.

Medical Health Officer's Report.

In presenting this my annual report, I have pleasure in stating that the sanitary condition of the township has been fairly good during the year, but not as free from contagious and infectious diseases as last year.

Scarlet fever prevailed to a considerable extent, though not proving fatal in any case as far as I know.

Measles of a mild type existed to a limited degree. Diphtheria and typhoid fever made their appearance in different localities without any fatal results.

In conclusion I would call the attention of the Board to the necessity of insisting on physicians attending contagious or infectious diseases within the municipality, notifying the Secretary of the Board of Health of the existence of such diseases.

A. MACKAY, M.D.
Medical Health Officer.

BURFORD.

Medical Health Officer's Report.

I have to report returns of whooping cough one case, recovered; typhoid fever, eight cases, five recovered; diphtheria, sixteen cases, fourteen recovered, two died; measles one case, result not yet reported to me; and of scarlet fever four cases, three recovered and one died. So far as I can judge the township is free at present from all diseases to be reported to me.

Nothing that I am aware of has been done regarding inspection of milk supply. A late medical congress condemned impure cows' milk as the transmitter of many diseases, as typhoid fever, consumption, etc. With such medical reports concerning the unwholesomeness of a great deal of the milk, and of the water that city humanity is furnished with, can it be any wonder that in cities the Scott Act is not popular?

In times when Ontario may be threatened with a serious epidemic, I should judge it advisable that some means satisfactory to the banks and the public be adopted, that bank bills be disinfected in a way which, while thorough does not injure them, or that they be replaced by the banks by new ones; for, by the circumstances of their use, they are in a most favorable position for carrying many diseases, and in large quantities of long-used bills the odor is very powerful, complicated and unsavory.

I was notified that in one instance where a house was placarded with the Board of Health notice for scarlet fever, the notice was taken down because the parties whom it was supposed had caused the fever had not their house placarded in Brantford. It is supposed to damage the trade of a city to inform the public of an infectious disease in its midst, hence the tendency *in some quarters* to suppress such information as much as possible.

ROBERT HARBOTTLE, M.D.
Medical Health Officer.

CALEDON.

Medical Health Officer's Report.

I feel considerable satisfaction, at this our annual meeting, that we have only once during the past year been called on as a Board to act in any emergency; this itself being almost a guarentee of the public health of the municipality. That emergency meeting was called by me to get advice of the Board on an important question, which arose in the following manner:—

On the morning of the tenth of January last, the head master of Alton Public School, came to my office saying that one of his little boys was sick and that he was afraid it was scarlet fever, and that he wished me to see him before school hours and let him know whether he (the teacher) might be able to attend school. His suspicions proved correct—the boy had scarlet fever, and I was forced to isolate the family by keeping the teacher away from school.

The other teacher, a lady, boarded at his house, and thus we were forced to close the school forthwith. Then came the vexed question of how long must the school be closed. A great number of the ratepayers were dissatisfied, claiming that such rigorous proceedings were unnecessary; others again contended that if through any negligence on the part of the trustees or Medical Health Officer their children contracted scarlet fever, they would resort to legal proceedings.

I then felt that it would be wisest to call a meeting of the Board to advise me in the matter and take the responsibility. The Board advised the trustees that the lady teacher should change her boarding house, first thoroughly disinfecting her clothing, and after being isolated for a week she might then resume her duties, and with an assistant manage the school.

Regarding the head master, we advised that after three weeks isolation and thorough disinfection of house and personal clothing, under supervision of the Medical Health Officer, he might then take charge of the school; the result was that no other cases followed at least in that section.

A difficulty regarding school matters presented itself at Credit Forks, in March, 1888, during the period of the local epidemic of measles and whooping cough in that village. Five deaths in three weeks had occurred directly or indirectly due to whooping cough, and the public became alarmed. The trustees after consulting with me decided to keep all children suffering from whooping cough or measles from attending school, as well as children belonging to families who were suffering from it. Then arose the difficulty; the teacher's boy, it was alleged, had whooping cough, and the trustees notified me to call at the house and examine the boy, but the teacher refused to have the boy examined, saying the trustees had acted in an arbitrary manner and that he would resent with force if necessary. Reasoning or explaining matters proved useless, so I was constrained to take my leave without having accomplished the required examination. However, as usual there was a "power behind the throne," for the trustees notified him that the school was closed and that the said closing being due to his perversity, his salary would be suspended. Whether this or the copy of the "Health Act" I sent him caused his repentance I cannot say, but he soon wrote me apologising for his action and asking me to come and examine the boy, which I did. I found him suffering from whooping cough and measles, and as he got well, the teacher after due disinfection, was allowed to open the school and I was much pleased at the matter being settled without resorting to legal proceedings. In this connection I might say that a good many teachers are not aware that it is their duty to notify the Medical Health Officer of any child attending school in whose family their exists any contagious disease; and it might be well to have the clause relating thereto printed along with our health by-laws and sent to each school in the township.

At our last annual meeting it was decided to take some steps regarding the unsanitary condition of "Credit Forks." Accordingly, our Inspector made a tour of inspection in May, and reported to me that matters were even worse than he had anticipated, the principal trouble being the close proximity of the privies to the houses, on account of the small size of the building lots, and the cesspool immedietely in the rear of the house.

Mr. K. Chisholm, being landlord of the said houses, I wrote him requesting him to make some arrangement whereby the privies could be removed to a greater distance from the houses. Mr. Chisholm did not see fit to take any active steps in the matter, and I had resolved to report forthwith to the Board, when I discovered that the talk and discussion about the matter had aroused the inhabitants to clean out privies and cesspools, and thus the required object was accomplished in another way. The water supply there has also been improved by cleaning out the springs and protecting them from cows and pigs, which used to have access to them. The general result is that since these steps have been taken there have been no infectious diseases, and there has been a marked decrease in non-contagious diseases.

A very violent type of scarlet fever was imported here from Bracebridge, in the following manner:—

A plasterer, whose family were living in Alton, had been working in Bracebridge during the winter; he was taken down with a severe illness, the nature of which we did not at that time known but which confined him to bed for many weeks. As soon as he had fairly recovered he came home to his family, and not having had any conversation with him on his return, I was not aware of the nature of his illness. However, about a week afterwards, I was called to see their little girl, the youngest of the family, and found her suffering from a violent attack of scarlet fever, from which she died in a few days. The following day three other children of the same family were taken down with the same disease, and though their illness was long and tedious they finally recovered.

These cases occurring so soon after the father's return, and at a time when there were no other cases in the neighbourhood, aroused my suspicion and I questioned him regarding his illness. He said that the doctor told him he had diphtheria, but stated that in the house where he boarded a child had died from a severe sore throat, accompanied by a rash which he said was exactly like the rash his children had. I then asked him if his clothing had been disinfected, and he said that nothing had been said to him about it, and he was not aware that it was necessary.

Here was a father returning to his family after a protracted and painful absence, and they received him joyfully, glad after many weeks of uncertainty and suspense to see his face again, not knowing that he had brought with him the germs of a disease that would place one of the little darlings that ran forth to meet him in her grave, three others on a bed of long and painful suffering, and bring the family to the brink of starvation. By strictest isolation and thorough disenfection not another case occurred. No one was allowed to leave the house, everything necessary being conveyed to them by a messenger who never entered it. I may be pardoned for relating this case at length, but I feel that such tragedies as these should be prevented, and when we know that disinfection and isolation will give absolute protection, we cannot help feeling that the neglect of these precautions is almost criminal. Perhaps the physician in attendance was not the Medical Health Officer and may have neglected to report the case. Thus we see what lives are lost and what suffering is caused by the neglect of physicians to report infectious diseases to the Medical Health Officer, or to take it upon themselves to carry out a proper system of disinfection.

One can easily imagine that many other cases have arisen through contact with this person in a railway carriage, and scattered throughout the country.

During the latter part of August and September, the village of Alton suffered from a local epidemic of typhoid fever and several cases of malarial fever, but in this case the cause was easily accounted for. A large mill-pond was emptied for repairs, and several feet of black mud was left steaming in the heat of the sun. In this matter I felt that all I could do was to urge the owner to complete the repairs as quickly as possible.

The health of the farming community has been remarkably good, excepting in cases where they had neglected to clean out privies, wells or cellars; and in such cases several families have suffered from typhoid fever and diphtheria.

I have refrained from giving any tabulated report, as the physicians' reports to me have been incomplete and might be misleading. I have endeavoured to induce all physicians practising in the municipality to report to me before the fifteenth of November, a list of the contagious diseases occuring throughout the year, but with very unsatisfactory results. In the absence of these reports we must be contented to labour on under this difficulty, and do all we can to further the interests of the public health without them.

JAMES ALGIE, M.D.,
Medical Health Officer.

CALEDONIA.

Secretary's Report.

In compliance with the Public Health Act, 1884, I have the honour to report that at the first meeting of the municipal council a Local Board of Health was appointed, with D. I. McIntosh, M.D., of Vankleek Hill, as Medical Health Officer.

It is with pleasure that I can report that the general health of the municipality during the past year has been better than for some time past.

Two cases of diphtheria occurred in a family in the month of June, one of which proved fatal. There were also several mild cases in another family this autumn. Proper care having been taken by the inmates of the houses in which the sickness occurred and by the physicians in attendance, the disease was prevented becoming serious.

With this exception, the municipality was completely free from contagious and infectious diseases during the year.

JOHN DOWNING,
Secretary.

CAMBRIDGE.

Medical Health Officer's Report.

During the past year our township has been pretty free of disease, except of fever and a few cases of diphtheria and scarlatina.

The cases of fever throughout our district were mild. Diphtheria and scarlatina were the only diseases that have brought many children to death.

As you are aware, all our trouble came from Casselman. The causes are, want of drainage, the density of population, and the impurity of the well-water. I must congratulate you for your action in the present year, and in the meantime on the good sanitary condition of the township, as well as with having educated people up to immediate compliance with your orders without the law's interference.

JULES M. BOILEAU, M.D.,
Medical Health Officer.

CARADOC.

Secretary's Report.

In conformity with the Public Health Act, I have to report as follows :—

The Board of Health have the satisfaction of reporting that the general health of the municipality has been very good during the year ; no epidemic has been very generally prevalent.

The Sanitary Inspector reports the following cases of epidemic diseases : Six cases of typhoid fever, one of which proved fatal ; four cases of diphtheria, two of which proved fatal ; a number of cases of whooping cough, none of which proved fatal.

He also, by instructions from the Board, made an inspection of milk vendors premises during the summer, and found them clean and well kept and the cows in a healthy condition. He also tested the milk and found it up to the average of pure milk ; said test was made after the delivery waggons had proceeded on their rounds, the vendors having no previous notice.

The present sanitary condition of the municipality is very satisfactory.

M. McGUGAN,
Secretary.

CARTWRIGHT.

Secretary's Report.

In pursuance of the Public Health Act, 1884, I beg to submit the following report :—

Our township during the year has been comparatively free from infectious or contagious disease. The local practising physician reported three cases of typhoid fever, one case on the fourth of August and two cases on the first of September, but by the prompt action of your Local Board in isolating the premises where the disease existed, the spread of the disease was happily averted.

At a meeting of the Board held on the 2nd day of June, a committee was appointed, consisting of the chairman, the secretary, and Mr. R. H. Prust, to examine all wells, cellars, yards and privies, where there was danger of filth accumulating, in the village of Blackstock, and to take such measures as authorized by the Public Health Act to have all such premises thoroughly cleansed, and put in a proper sanitary condition.

The committee so appointed forthwith proceeded to inspect said premises, and with a few exceptions found little to complain of, and such exceptional cases were at once cleansed and the proper remedies applied.

On the whole I am pleased to state that your township is at present free from contagious disease.

WM. LUCAS,
Secretary.

CAYUGA, NORTH.

Secretary's Report.

The sanitary condition of the township of North Cayuga, during the year 1888, has been in a good state generally.

There has been one case of diphtheria and one of typhoid fever, but in neither case has the disease spread.

There was a report of one case of small-pox being in the township, but the report turned out incorrect. There has been nothing of the kind in the township so far.

JAMES MITCHELL,
Secretary.

CHAPMAN.

Secretary's Report.

The health of the township at large has been generally good.

In the month of June the village of Maganetawan was inspected, and all manure and other garbage was removed, but not without some opposition on the part of householders.

The carcases of three animals were buried by order of the Board at an expense of $13.

Dr. Walton, of Magnetawan, has been instructed to vaccinate all residents of this township at a fee of 25 cts each.

The Board has held three meetings. At their last meeting a drain was ordered to be made through the lot owned by R. Geasley, in Magnetawan, at a cost of $2.

The Board reports the township generally in a good sanitary condition ; the hotels are clean ; the yards dry and well drained, and manure frequently removed.

T. G. PEARCE,
Secretary.

CORNWALL.

Medical Health Officer's Report.

Owing to the ready compliance of parties concerned with the demands of the Board of Health, the duties of its officers are now with a few exceptions comparatively light. Besides the thorough cleansing of premises insisted upon early in the season, very few changes were asked for and these few were willingly and quickly complied with, so that at present the district is in a most satisfactory condition. Slaughter-houses were put in a thorough sanitary condition early in the year, and so maintained during the summer ; complaints on that score were a rarity.

School houses were properly looked after by teachers and trustees, at the instance of members of the Board in whose district they happened to be.

The number of contagious diseases of all kinds in the district was much less than in former years. Cases of diphtheria were isolated and their malignancy was not at all great, except in a few instances. Typhoid fever was not nearly so prevalent, and in the most crowded parts of your district the cases were surprisingly few. Scarlet fever, measles, etc., were scarcely known.

I must congratulate the Board upon the very satisfactory state of things, and the members upon the efficient way in which they have done their duty, none too pleasant. I would ask you to continue to enforce the regulations with a firm hand early in the season, and the fruits of your work will continue to be apparent.

H. J. HARRISON, M.D.,
Medical Health Officer.

CROSBY, NORTH.

Secretary's Report.

Our Board met for the first time for the transaction of business on the 16th of April, and instructed the Sanitary Inspector to examine the slaughter-houses and cheese factories and report as to their sanitary condition.

His report showed that the cheese factories were kept according to the law, but the slaughter-houses were not the right distance from the public street and not kept in a proper sanitary condition.

Another meeting was called on the eleventh of June, when the slaughter-houses were ordered to be closed, which was done at once, and a new one erected at a proper distance from any habitation. They have been since kept in a proper sanitary condition.

The present year has been a very healthy one. There has been no contagious or infectious disease, except a few cases of measles and scarlatina of a very mild type, and the sanitary condition of the township is good.

JOHN McGUIRE,
Secretary.

CROWLAND.

Chairman's Report.

The Local Board of Health for the township of Crowland beg to present this their annual report for the year 1888. The number of cases from infectious diseases up to date, as reported, is as follows: Scarlet fever four, all in the family of Andrew Cruickshank. Three cases broke out in January last, and all recovered under the treatment of Dr. Shaw, who never informed me of its existence until weeks afterwards; consequently the house was not placarded. Another case in the same family occurred during last month, under the treatment of Dr. Shaw, who notified me without delay. I placarded the house; patient got well. I wrote to Dr. Shaw in May about his neglect in January last; he apologised and stated that the house was afterwards properly cleansed. There were four cases of diphtheria. The first case was in the family of Walter S. Elliott, under the medical treatment of Dr. Park, who notified me of its existence. I forthwith placarded the premises. Shortly after the child recovered. The second case occurred in the family of Edwin Morris, under the medical care of Dr. Burgess, who immediately notified me. I forthwith placarded the premises. The child recovered. The third and fourth cases occurred in the family of David Shafer, under the medical care of Dr. Park, who notified me. I had the house placarded forthwith. Both of the children *died.*

I beg to state that the medical men, Dr. Burgess excepted, have shown great remissness in duty, in not reporting to me forthwith of the existence of the above cases.

There were no complaints sent to the Board during the year of any case of nuisance, or of anything existing prejudicial to the public health of the municipality. The degree of health prevalant in the township during the year has been exceptionally good.

W. H. BIGGAR,
Chairman.

DALHOUSIE AND SHERBROOKE NORTH.

Secretary's Report.

I am happy to be able to report that our townships have been during the year now nearly past in a fair sanitary condition, there being only one case of typhoid fever which was contracted in Kingston; the patient fully recovered. Each member of the Board is taking an active part in enforcing the law. A cheese factory and hog-yard at Elphin Corners, complained of, was visited by the Board of Health and found in a very bad state of repair and unsanitary condition. The parties were notified to at least partially abate the nuisance, but the instructions were not complied with till an action at law was threatened. We think the factory should be removed.

GEO. CAMPBELL,
Secretary.

DEREHAM.

Medical Health Officer's Report.

The season has again arrived when I am required by law to report on the sanitary condition of this municipality for the present year, and in doing so I am pleased to state that the people of this township, at least that part which is under my jurisdiction, have abundant reason to be thankful for the small number of cases of zymotic diseases that have occurred during the year.

Early in the season a few cases of scarlatina of only moderate severity occurred, but owing to due precautions being taken the disease did not spread to any extent.

During the summer months a small but severe epidemic of diphtheria visited part of this township, but owing to rigid care and isolation the epidemic did not become so general as it would otherwise have done; and fortunately the mortality was small, as I have only heard of two cases proving fatal, As none of the physicians have reported their cases to me, I regret that I am unable to report the exact number of cases that occurred. I may state that twenty-six cases came under my own care, the ages of the afflicted ones ranging from the child of three years to the adult of forty-six years, and in severity it varied from the rather mild type to the severe putrescent form, but all made a good recovery; and as I believe in giving honour to whom honour is due, I wish to attribute a very large share, perhaps the largest share, of the credit to excellent nursing, for I am pleased to state that never since I commenced practicing have my instructions been so rigidly observed and carried out, and the medicines so punctually and promptly given, both day and night, as during the epidemic to which I have just referred.

Owing to the growing intelligence of the people they now at once recognize the gravity of the situation and the treacherous nature of the disease, and obtain medical aid without delay; and for these reasons I think I dare venture to predict for the future a smaller rate of mortality than during the past.

There were a few cases of diarrhœa and dysentery among the children during the hot summer months, but not nearly so prevalent as in former years, and I am not aware of any deaths occurring from those causes.

Typhoid and malarial fevers have not, so far as I am aware, prevailed to any great extent in this municipality during the year.

In this immediate vicinity we have had fewer cases of fever than in any year during the past ten years.

I regret to state that the provisions of the Public Health Act, concerning the cleaning out of wells are not receiving the attention which their importance demands.

H. MINSHALL, M.D.
Medical Health Officer.

DORCHESTER, NORTH.

Secretary's Report.

The Local Board of Health of the municipality of North Dorchester are very much pleased to be able to report that the sanitary condition of this township is favourable, and the inhabitants are willing to carry out the suggestions of the Board as reported last year. You can better judge of the health of the inhabitants of this municipality after reading the number of cases of infectious diseases reported by the physicians in the township. Two cases of scarlet fever, and eight of measles for the year 1888. The Board is in working order.

D. P. AYLSWORTH,
Secretary.

DUMFRIES, NORTH.

Medical Health Officer's Report.

It is a gratifying feature of my experience to find more indications of awakened interest, and willing co-operation in all inexpensive changes, that may conduce to the promotion of health and the prevention of disease. I have again visited the schools of the township, and though a few of the pupils have been absent from illness, there have been no epidemics of disease interrupting any of the schools. It has been difficult to obtain reliable information relating to the health of the schools. The Department of Education have, however, proposed blank forms for teachers' register, by which an accurate record will be kept of all children absent from illness ; and also blank forms to be filled up and sent by the teachers to the Medical Health Officers, giving definite information relating to the health of the pupils. I am pleased to report an improved condition of the water-closets, though in a few instances regular and efficient disinfection has been neglected. I have supplied every school with copies of pamphlet No. 15, issued by the Provincial Board of Health for checking contagious diseases. The floors of most of the school rooms were not found in the most desirable condition. The prevailing pallor of school children from foul school air, is but too often the index of depraved blood and retarded physical development : and this, too, be it remembered, at a time of life which prevents the attainment of sturdy, robust maturity. I have done what I could to minimize this evil, without contemplating the radical changes involved in the erection of better structures and the adoption of the more costly modern methods of heating and ventilation.

In company with Inspector Detwiler, I visited one of the cheese-factories where complaints had been made in regard to the "hog nuisance." The proprietor had, however, moved the hogs to a safe distance from the factory and private dwellings at considerable personal inconvenience. To abate this nuisance it is to be hoped that all factories will adopt the suggestions made by the committee appointed to investigate this matter, viz., the laying of pipes to convey the whey to the hogs at safe distances from the factory, private dwellings and public highways. The evidences of cleanliness within the factory, with its tight floor and ample means for surface drainage, were quite satisfactory. I obtained and examined forty-two specimens of water used in cleaning the milk-cans that convey the milk to the factory, and only two of them were found objectionable, I presume from neglect in regularly cleaning the wells. Your Inspectors inform me that the other cheese-factory is in a satisfactory condition.

Your Inspectors have jointly visited the premises of all milk-vendors in the municipality, and carefully noted the condition of all the cows, the unwholesomeness of their food and water, the care taken of milking utensils, and all matters essential to the sale of pure wholesome milk. They have granted license to seventy-two vendors of milk, in accordance with the statutory conditions providing for the same. In this connection I would suggest that all licensed vendors should indicate their license upon their public delivery waggons, as a further assurance to the public that they have complied with the law relating to the sale of milk.

The Inspectors have repeatedly visited the slaughter-houses during the year and reported them generally in a satisfactory condition, which is much more than could be said in previous years. They assure me that a decided improvement has been effected since inspection was instituted in the management of slaughter-houses. They have granted licenses during the present year to eight houses. They have found their duties in this direction somewhat onerous. In my opinion these institutions will bear close watching, not only on the part of the inspectors, but by all owners, especially during the hot months, so great is the tendency of flesh to become unfit for use by the speedily acquired unsanitary condition of all slaughter-houses. I take pleasure in bearing testimony to the efficient services rendered by your Health Inspectors, and again congratulate this Board upon the exemption of the entire municipality from almost all preventable diseases during the year.

J. B. LUNDY, M.D.,
Medical Health Officer.

Dumfries, South.

Medical Health Officer's Report.

It is with pleasure that I submit to you my annual report. We ought to be thankful that during the year past the township has been to a great extent free from the more virulent forms of infectious diseases. There has been a much smaller number of complaints than usual, and these have been dealt with in such a manner by the Board that the people must feel they have a protection in sanitary matters on which they can rely. The Board has accomplished a great deal of good for the township, and is still striving to rectify matters prejudicial to the health of the community. Considering the improvements that have been made in this direction, together with the good feeling existing between the Board of Health and the residents of the township, I think it quite a natural conclusion that in the future the labour of the former will be very much lightened. I would suggest that care should be taken to keep the school house clean and well ventilated, and that vaccination be strictly enforced.

E. C. KITCHEN, M.D.,
Medical Health Officer.

Dungannon and Faraday.

Secretary's Report.

Last fall and winter this municipality was visited by a malignant type of diphtheria, which died out in the present year after ten had fallen victims to the disease, all of these being children. There have been eleven other deaths from various causes, seven-tenths of which were infants.

During the present year there was an outbreak of measles but no deaths took place, and the health of the municipality is at present most satisfactory.

A. C. BARKER,
Secretary.

DUMMER.

Medical Health Officer's Report.

In compliance with the requirements of the law I submit to you my report. Early in the spring of 1888, a case of diphtheria made its appearance, and from its cause came a number of others in the immediate locality. The house was visited and an examination made of it and surroundings. They were found to be well fitted for the development of diphtheritic germs. The well was close to the door, and the earth surrounding the well was apparently the receptacle of soapsuds and dish-water of the house. There were two deaths during the outbreak. The house was placarded and isolated. Funerals ordered strictly private, and isolation for six weeks after all signs of disease had left the house, and all clothing and the house had been strictly and thoroughly disinfected. In the northern part of the township there has been some cases of measles and whooping cough, but of a mild and favorable type. There has been no other epidemic or contagious disease under my notice. I would direct the attention of this Board to the condition of our schools and surroundings. It would be well to direct the attention of school trustees to the provisions of the Health Act. In closing this report I would express the hope that next year we may be more strenuous in our efforts to promote sanitary reforms than we have been in the past.

J. A. COUCH, M.D.,
Medical Health Officer.

EASTNOR.

Medical Health Officer's Report.

I have the honour to submit the following report on the sanitary condition of this municipality during the past six months, during which I have acted as Medical Health Officer.

At the present time our municipality is entirely free from contagious diseases, there having been but three cases of typhoid fever and an epidemic of measles. The latter disease became general, owing to parents allowing their children to attend school when other members of the household had the disease.

I was requested by the trustees of Swan Lake School to visit the section and examine the children, as the school had to be closed owing to non-attendance from sickness. I found upon examination that they were affected with measles of rather a severe type; no deaths from any of the above diseases

From reports that a contagious disease was spreading amongst the cattle in the western portion of the township, I visited that section and acting under instructions from the Local Board of Health, requested C. R. Notman, V.S., to visit that district. We examined a few typical cases, and Mr. Notman's report on the same I herewith enclose for your perusal, as requested by your Board. I have made a house-to-house visit and vaccinated between three and four hundered children. I find upon examination that scarcely two per cent. of the children of the township have ever been vaccinated.

I would also respectfully draw the attention of the Board to the fact that this village Lions Head, being the main centre of trade for that portion of the Saugeen Indian Peninsula lying to the north of this municipality, ought to exercise proper precautions in reference to the spread of zymotic diseases. Scarlet and typhoid fever, as well as measles, have been prevalent in those sections during the past year, and in which no Local Board of Health exists.

The fact that all the cases of fever which have occurred since my residençe in this municipality have been traced to outside causes, goes far to prove the general healthfulness of the municipality.

JAS. S. FREEBORN. M.D.,
Medical Health Officer.

EDWARDSBURG.

Secretary's Report.

In compliance with the requirements of "The Public Health Act," I beg to present the annual report of the Local Board of Health of the municipality of the township of Edwardsburg.

The general health of the municipality has been good, with the exception of a few cases of diphtheria in the early months of the year, two of which proved fatal; the others being of a mild type soon recovered. The Board ordered the houses where the disease was to be thoroughly disinfected and fumigated.

For the information of the people the Board ordered two hundred hand-bills to be printed and posted up in the public places, containing extracts from "The Public Health Act" regarding school protection; the removal of putrid and decaying animal and vegetable matter, and the cleaning of cellars, outbuildings, yards, etc.

The sanitary condition of the township at present is good.

GIDEON FAIRBAIRN,
Secretary.

EGREMONT.

Secretary's Report.

In submitting my annual report for Egremont, I would say that so far as known to us the sanitary condition of this township is good.

We have had several cases of typhoid fever during the past year, but all recovered. One case seems to have been imported; the others were not attributable to any unsanitary or known cause.

These cases were not reported to the Board, hence the difficulty of making an accurate report. Although we supplied all the physicians in and around the municipality with blank forms for such reports, yet they do not give the Board this information.*

Only one complaint was made during the year and it was attended to. With the exception of burying a few dead animals, the duties of our Board have been comparatively light.

D. ALLAN,
Secretary.

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* Many of the reports from municipalities contain similar complaints as to the delinquency on the part of medical men in reporting infectious diseases. The law is plain in this matter, and it is the duty of Local Boards to see that it is obeyed. If a few examples of the delinquents were made before a magistrate, the disired effect might be gained. [ED. REPORTS.]

ELDERSLIE.

Chairman's Report.

The Board of Health for the township of Elderslie for the year 1888, reports as follows:—That the sanitary condition of the township for the present year has been such that this Board has had no cause for active interference. There have been several cases of typhoid fever, none of which resulted fatally. In one family scarlet fever caused the death of one child. In one or two cases of diphtheria the medical men in charge took the necessary precaution to prevent the spread of the same. The Board was not notified of any nuisance existing in any part of the township.

JAMES GARNET,
Chairman.

ELMA.

Chairman's Report.

The general health of the township for the year has been pretty good, although we have had some cases of diphtheria and some of typhoid fever, but to no alarming extent. There were some cases of both diseases which were carried into the township from outside points by persons who were affected. At the present time the general health of the township is very good.

There are a number of cheese-factories in the municipality, and before the owners or managers commenced operating these factories in the spring, they were notified by the Secretary of our Local Board that the factories and surroundings must be kept clean and in as good a state as the law directs.

Also, all owners of slaughter-houses were similarly notified; the owners obeyed orders strictly.

All the swamps are getting reclaimed and drained, so that all the surplus or stagnant water is a thing of the past.

ROBERT CLELAND,
Chairman.

ENNISKILLEN.

Medical Health Officer's Report.

As far as I have been made acquainted, I think your Board have had but little to exercise themselves about during the past year.

The general health of the municipality has been good, perhaps above the average. Typhoid fever has prevailed in a few families on the 12th line, and appears to have been very fatal in its results. It did not spread to any extent and has now I believe entirely subsided. It is difficult in many cases to ascribe the cause; in this instance it would appear like an extension of the disease which prevailed in Petrolia to so alarming an extent at one time during the fall. That it might have originated from the intercommunication of the people, is to my mind quite feasible; nothing is more likely. Though not actually a contagious disease, yet the proof is abundant that one member of a family will introduce it to the rest though every precaution may have been taken in regard to cleanliness. As an example I might mention the case of a young man who was ill with the fever in Petrolia this summer; as soon as convalescent he was taken to his home nine miles in the country, where he imparted it to four brothers and one sister, the latter dying of the disease. In this connection it would not be amiss to impress on the Board the necessity of complying with the Act regarding the cleansing of wells and water closets in the early summer of each season. This is not attended to, and doubtless many deaths and much sickness are attributable to the fact.

The Medical Health Officer's report will never be complete or in any way satisfactory, unless the physicians practising in the municipality report to him from time to time the cases met with in their practice. I would ask the Board to communicate with these gentlemen and ascertain if they will co-operrte with us in getting at something like an accurate statement of the various diseases occurring under their notice. It would be a valuable aid from a statistical point of view, besides furnishing the Local Board with information which could be acted upon without delay.

As near as I can ascertain the deaths from infectious diseases for the past year in Enniskillen have been confined to those occurring from typhoid fever ; these number six in all, about one-half of those who were stricken down.

G. D. LOUGHEAD, M.D.,
Medical Health Officer.

ESQUESING.

Chairman's Report.

In conformity with the provisions of the Health Act, I beg to report that the Local Board of Health for the municipality of this township held two meetings during the year.

The Sanitary Inspector made his usual inspection and reports favorably of the sanitary condition of the several villages of the township. One case of typhoid fever was reported. The patient recovered. No other case from that locality or from any other part of the township was reported.

The Board, however, has reason to believe that other cases of typhoid fever, measles and at least one case of diphtheria have occurred, of which no report has been received from the attending physician.

On the whole the general health of the inhabitants of the municipality is considered good, owing perhaps to the improved sanitary condition of the more populous districts.

There is no Medical Health Officer employed.

The Board is of opinion that the powers and duties of Local Boards should be more clearly defined, and clause 48 of the Health Act, Revised Statutes, cap. 205, amended, which is at present merely discretionary as to the voting by councils of a sum or sums of money to Local Boards for the carrying on of the work deemed necessary by such bodies.

I also beg to suggest to the council that the new Board of Health for the ensuing year be authorized to have printed a few simple rules on sanitation for the guidance of the ratepayers, and to be delivered by the assessor when making his annual assessment. This is looked upon as a cheap plan of improving the health of the community if adopted, and of reducing the cost of doctors' bills.

R. GRAHAM,
Chairman.

ETOBICOKE.

Medical Health Officer's Report.

I have the honour herewith to submit my third annual report regarding the health of this municipality.

With two exceptions there has been a total absence of infectious diseases during the past year. I have had only one case of typhoid fever, imported from Toronto, and one case of small-pox, this patient also blaming Toronto for the contagion. I am thankful to say that the disease has been confined to the first case, notwithstanding the fact that there were twelve members of the family, two children under two years not having been previously vaccinated. By making temporary quarters in the driving shed, we moved the family after a complete change of clothing and all having been vaccinated, where they remained until the patient had quite recovered and the house thoroughly disinfected.

I would again advise your Board to post notices in the Villages of Islington, Lambton Mills, Mimico and Humber Bay, to have all privy and vaults cleaned and disinfected, and to have the council pass a by-law making it compulsory to use the dry-earth system of closets. The Inspector to make at least two rounds during December and May, following the posting of the notices.

In the matter of cow byres and milk vendors in this municipality, I would refer you to a circular issued by the Provincial Board of Health last year as to registrations, inspections, etc., etc., in connection with the sale of milk. Also in the matter of slaughter-houses. I am led to believe there is some killing in places where it should not be without a permit from your Boord. I have had several complaints about one in the north end of this municipality.

J. H. COTTON, M.D.,
Medical Health Officer.

EUPHRASIA.

Medical Health Officer's Report.

I have the honour to submit the following reports of the sanitary condition of the township for the year ending December 1st, 1888 :—

On the 3rd of January, 1888, being notified that diphtheria had broken out in a certain locality, I visited several families where it was said to exist. In the first family I found two children had died of membraneous croup following diphtheria, and four more were suffering from sore throats and croupy symptoms. As no medical man was in attendance, I treated those who were still ailing, and furnished medical disinfectants and other necessaries to ensure the safety of the public in the locality. I also gave necessary instructions for attendance, isolation, cleansing and disinfecting the house and contents.

In the second family I found all well. In the third simple cases of sore throat, but not of an infectious or contagious nature. In the fourth family one child had died of diphtheria a couple of days before, and another was still bad with it. I followed the same course here regarding instructions, etc., to prevent its spreading. On February 4th I was again notified that diphtheria existed near Kimberly. I visited those families the following day, and in the first found that ten children had suffered from it, one of whom had died ; several of them were yet ailing. I gave the necessary instructions regarding isolation and sanitary measures. In the second family I found two suffering from it, and with them and the family followed the same as in previous cases. In the third family two children were afflicted with it, both of whom afterwards died. As these were under medical attendance, I gave the usual instructions to prevent its spreading, etc. On the 5th of February I was called to another family said to be suffering from it, and found one child down with it, whom I attended until well. On March 1st I was notified that it had broken out in another locality, but on visiting the family found nothing of a contagious or infectious nature.

During the year I visited nine families in the township, amongst whom there were twenty-five cases of diphtheria and six deaths. The only other infectious or contagious disease that came under my notice were a few cases of measles, all of which got well. The people of the township, as a whole, are in comparatively good health.

The origin of most of the above cases I traced to contagion by a family who had came from the United States, some members of which were afflicted at the time with the disease. In almost every place, so far as I could find where they visited, the disease broke out in a few days afterwards. In one of the families the origin could not be clearly traced, but it was thought to be due to impure water. By none of the families was it communicated to the others, so far as I can ascertain; and the disease was confined to the house in which it first appeared. To several of those places I sent the ordinary legal notice to be posted up at the entrance to the place, warning the public of the existence of contagious disease in the house, but I regret to say that I found some of the parties strongly averse to this plan of protection.

T. S. SPROULE, M.D.,
Medial Health Officer.

EXETER.

Secretary's Report.

In February the Board ordered posters to be placarded, warning the citizens of liability to prosecution for neglecting to report contagious or infectious diseases to the proper authorities.

In March the Board received intimation from the council that Dr. Hyndman had tendered his resignation as Medical Health Officer; the Board recommended the acceptance of the resignation, and requested the appointment of Dr. Lutz in his stead. The Board recommended the cleaning out of the drain at Hawkshaw's Hotel, and also ordered the issue of notices to all residents to clean and disinfect their premises. In April the Sanitary Inspector reported that all had complied with the order of the Board, with the exception of a few cases. He was instructed to see that the premises complained of were put in a sanitary condition immediately. On the 13th of June the Board visited a few places which were reported in an unsanitary condition, and gave instruction to remove cause at once, which was done.

At a meeting held on the 9th July, a request was made to the council to plank the bottom and sides of the drain at Hawkshaw's Hotel, so as to secure proper cleansing by flushing and scraping, to which the council paid no attention, so the drain remains as it was—a source of continual complaint and anoyance, and it may be of disease.

On the 3rd September the chairman reported that in consequence of the many cases of typhoid fever at present in the village, many were anxious that an effort be made by the Board of Health to prevent the further spread of the disease, but the Board considered themselves powerless in the matter. At the same meeting a notice was published expressive of a determination to prosecute any person manufacturing cider, who would leave exposed any refuse of such manufacture on his premises or elsewhere in the village.

On the 29th October the Board published the following resolution: "That in view of the existence of smallpox in Toronto and elsewhere in this Province, this Board consider it their duty to earnestly recommend the immediate vaccination of all residents of this village and vicinity who have not been recently vaccinated."

With the exception of an outbreak of typhoid fever and measles the condition of the health of this village has been on the whole very satisfactory.

M. EACRETT.
Secretary.

FLAMBORO, EAST.

Medical Health Officer's Report.

It again becomes my duty to submit to you the yearly health report of the Medical Health Officer of the municipality. We have enjoyed exceptionally good health during the past year, and as a consequence the death-rate is low. Fourteen deaths have taken place, which gives the very low rate of six deaths per thousand of population. Of these deaths four were persons over 65 years of age, and five of infants of one year or under. Of these deaths none occurred from diseases which are preventable by this Board —not a death taking place from typhoid, diphtheria, scarlet fever, measles or smallpox. A few cases of typhoid have occurred, but of a mild type. No nuisances have been reported to me this year; and while visiting at different times a large number of the houses in the township during the past twelve months, I have not noticed anything that would be injurious to the public health.

J. D. COURTENAY, M.B.,
Medical Health Officer.

Flamboro, West.

Chairman's Report.

I herewith submit my report as chairman of the Local Board of Health:

We have held four meetings during the year. Careful inspections have been made by the Sanitary Inspector of all slaughter-houses, dairies, school premises, stores, hotels, mills, factories and most of the private houses in the villages, and almost all were in a fair condition. There have been comparatively few cases of infectious or contagious diseases during the year. The number reported was typhoid fever, four cases, supposed to be caused by using bad water; scarlet fever, twelve cases, caused by transmission of infection from other sections; diphtheria, four cases, which appeared in different sections at different times during the year and for which no special cause can be determined. None of the cases mentioned resulted fatally. No cases of smallpox have occurred in this or the adjoining municipalities, but should any occur the Board is prepared to put in force the Act respecting vaccination, and to use all means in their power to prevent the spread of the contagion.

The expenses of the Board this year are in accordance with the accounts presented.

We have good cause for thankfulness for the satisfactory sanitary condition of the township, and from the almost total immunity from diseases of an infectious or contagious character which we have enjoyed during the year.

CHARLES S. CUMMINS,
Chairman.

Fredericksburg, North.

Medical Health Officer's Report.

During the past year there have been no serious epidemics in the township. What might have been the beginning of another epidemic of diphtheria was, by the efforts of the Board, confined to the first house in which it appeared. Three young men visited Kingston on the 12th of July and, though all belonging to different homes in South Fredericksburgh, were taken down with a severe form of diphtheria in about one week's time. The South Fredericksburg Board of Health used rigorous means of isolation and disinfection. Nevertheless, it was conveyed to several in the same homes and to one other house in the township. After apparent convalescence one party visited friends in N. Fredericksburgh (contrary to advice), the result being the death of one child and serious illness of the only other one in the family. It is by such experiences that we learn the great care necessary to prevent the spread of these diseases. There were a few cases of typhoid fever during the past autumn, mostly mild.

I have inspected the slaughter-houses and cheese factories during the summer and have found them kept in good condition. One slaughter-house is too near the highway and to dwellings, but the owner is about removing it. There are a few pig-pens also too near the road, and the owners should be notified to remove them.

G. C. T. WARD, M.D.,
Medical Health Officer.

GAINSBORO'.

Secretary's Report.

I have the honour to submit the fifth report of the Secretary of the Local Board of Health of the Township of Gainsboro'.

The Township of Gainsboro' has had another year of good health, for which blessing all good citizens are truly thankful. The Local Board of Health did not consider it necessary to enforce the compulsory provisions of the statute regarding vaccination, for the reason that there is no railway running through the township and but little danger of smallpox being brought in from distant places. Measles was the only infectious disease that occurred during the year.

S. KENNEDY,
Secretary.

GARAFRAXA, WEST.

Medical Health Officer's Report.

I beg leave to report that the general health of the township during the past year has been exceptionally good.

There has been no epidemic of any importance, with probably the exception of measles, which was somewhat severe in one or two localities; some of the cases proved fatal. We had five cases of typhoid fever in the municipality this fall, all being imported cases, that is, none of the cases were developed in the township. One case was fatal, but the patient had a heart complication, which we believe was the immediate cause of death. There were three or four cases of a mild form of diphtheria, but the disease was stamped out before it had assumed anything like a malignant type. The cases were due to foul cellars and defective drainage. The only or principal causes of death were old age and inflammation.

JOHN G. MENNIE, M.D.,
Medical Health Officer.

GEORGINA.

Secretary's Report.

I beg to present my report of the proceedings of the Township Board of Health for the year now drawing to a close. In the commencement of the year the Board had no occasion to meet or even organize until the 11th August, when the first meeting was held, complaint having been made that a butcher was slaughtering animals in the Village of Sutton. The Board examined the premises and ordered such practice to be discontinued. The Secretary was given instructions to prepare public notices containing the requirements of the Public Health Act, and have them posted throughout the township.

The Board did not meet again until the 19th October, when the smallpox broke out in North Gwillimbury, the adjoining municipality, at which meeting it was decided to notify the trustees of the respective school sections in the township as set forth in section 16, chapter 206, R.S.O.

At a meeting held on the 22nd October the Municipal Council was requested to appoint two Sanitary Inspectors, and to proclaim by posters that all inhabitants of the municipality be vaccinated, in accordance with section 15, chapter 206, R.S.O. Posters were also put up warning persons who had access to smallpox from mingling with the general public; and all churches, schools and societies were ordered to be closed. The Sanitary Inspectors were orderad to keep a vigilant watch at Sutton and Baldwin, two leading thoroughfares from North Gwillimbury to this municipality, in order to prevent the importation of the disease if possible; and the houses of William Draper, who had contracted the smallpox in North Gwillimbury, together with two other families who were known to have been visiting were the smallpox was, were quarantined.

The Board met again on the 2nd November, and the Chairman was authorized to arrange with the Reeve of East Gwillimbury for the erection of a suitable place for the shelter of the families in both municipalities affected with smallpox, while their houses were being disinfected.

The Board decreed that in the event of no new cases of smallpox breaking out that the schools, churches and societies be re-opened on the 9th November, 1888.

Another meeting was held on the 19th November, when a complaint was received in reference to a "well" on the premises of Wyndham Shirr, Udora. The Board appointed the Secretary to investigate in reference thereto, and, if necessary, to condemn the same. The house of William Draper was ordered to be thoroughly disinfected. Two cases of typhoid fever was reported in the Village of Sutton.

The Board met again on the 26th November, when the Secretary reported that the water in the "well" of Wyndham Shirr, at Udora, was unfit for domestic use; consequently it was condemned. The Medical Health Officer was instructed to see that the Act was carried out in regard to the two cases of typhoid fever in Sutton.

A case of diphtheria was reported in the month of October; the premises were ordered to be placarded, and, the Medical Health Officer being the attending physician, the person recovered. The house was thoroughly disinfected, and the other members of the family escaped the disease.

With the exception of the foregoing the Township of Georgina has enjoyed a blessed immunity from contagious diseases during the year. The Board has endeavoured by every means in its power to check the spread of smallpox that prevailed so extensively in the adjoining municipality, more particularly the Chairman of the Board, Mr. Anderson, Reeve of this Township, who was very zealous and energetic during the excitement that prevailed on that occasion.

ANGUS EGO,
Secretary.

GLANFORD.

Secretary's Report.

The first meeting of the Board of Health for the Township of Glanford, after their reappointment by the Council, was held on the 30th January. All the members being present and being duly organized, expressed a willingness to fill the office to which they were appointed. I have the pleasure of informing you that the Board have not been required to take action in many cases of contagious disease, with the exception of one house, where diphtheria has made its appearance, and one case of typhoid fever. In the cases of diphtheria one proved fatal, but as Dr. A. Farewell, Medical Health Officer for this Township, attended those cases, he used every means necessary to prevent their spread. From the healthy state of the Township and the absence of complaints or the knowledge of any existing nuisance requiring the action of the Board or the services of the Sanitary Inspector, it has not been necessary for the Board to hold any subsequent meeting. As to milk vendors, there are quite a number of them residing in this municipality, none of whom have applied for permits to this Board, but as they all, without exception, sell their milk in Hamilton, I suppose they obtain permits from there. I am pleased to state that the sanitary condition of the township is still good, and the death-rate during the year has been rather below the average of past years.

THOMAS CHOATE,
Secretary.

GLENELG.

Secretary's Report.

I have the honour to report that the general sanitary condition of this Township during the current year has been exceptionally good. Diphtheria broke out in two families, but as the householders and the physicians in attendance failed to report to the Board, no steps were taken by it to isolate the cases or trace the cause. The disease, however, appears to have been confined to the two families, in one of which only one member was affected, and the disease is now entirely stamped out without any fatality.

It is very gratifying to report that with the exception of the above cases no other infectious or contagious disease existed in the Township during the year, and this immunity can in all probability be attributed to several causes: the absence of slaughter houses, tanneries, stagnant mill ponds and other disease-generating centres; the plentiful supply of pure, wholesome water in all parts of the township, and the general cleanliness of the people.

J. S. BLACK,
Secretary.

GLOUCESTER.

Secretary's Report.

On behalf of the Local Board for Gloucester Township, I beg leave to report as follows:—The sanitary condition of this Township for the year 1888, so far as the same relates to the general health of the inhabitants, has been satisfactory; no epidemic, contagious or malarial diseases are known to have existed, with the exception of a few isolated cases of diphtheria and fever, for the origin of which we can assign no other reason than some domestic irregularity or constitutional predisposition.

During the year our Sanitary Inspector has carefully inspected every part of the premises of twenty-five persons engaged in keeping cows for the sale of milk, and found nothing objectionable except in two cases, which were removed. He has also been called upon to look after and cause to be abated eighteen cases of distinct nuisances existing either on the premises of the individuals or on the public highway; all were satisfactorily disposed of with the exception of one, in which the Magistrate imposed a fine of $5 with costs of the trial.

C. BILLINGS,
Secretary.

GOSFIELD, NORTH.

Chairman's Report.

I have the pleasure to report that during the last year the Township of Gosfield North has been remarkably free from contagious diseases, only four cases of malarial fever having been reported to the Board, and only one of a severe type that resulted fatally. In the spring there were a number of cases of measles confined to a small circle and without any fatal results.

The Inspector reports that he has had great difficulty in enforcing cleanliness in tenements and other rented houses, in consequence of the vagueness of the law as to who are the responsible parties in regard to back-houses, the owner or the tenant.

THOMAS McCREERY,
Chairman.

GOSFIELD, SOUTH.

Medical Health Officer's Report.

In accordance with the requirements of the Public Health Act, I herewith present my annual report for the year 1888.

In consequence of the recent formation of the municipality, and the fact that all of the members of your Board are new to their position, and therefore comparatively unacquainted with their duties in detail, the work of your body has not been characterized by that degree of thoroughness which should and undoubtedly will mark its future actions. I have, however, to compliment you upon your zeal and evident desire to make your organization meet and carry out all the objects for which it is instituted.

Regarding the sanitary condition of the township during the past year, I am gratified at being able to report that, with the exception of a few cases of scarlet fever and a light visitation of diphtheria, it has been exceptionally favourable.

S. A. KING, M.D.,
Medical Health Officer.

GREY.

Secretary's Report.

In presenting to you the annual report of the Local Board of Health of the Township of Grey, it affords me much pleasure to be able to state that the general health of the township for the past year has been good, with the exception of four cases of diphtheria in one family, in the southern part of the township, three of which proved fatal. There has been no other disease of a serious nature reported and the municipality is believed to be in an excellent sanitary condition.

WM. SPENCE,
Secretary.

GRIMSBY, SOUTH.

Medical Health Officer's Report.

During this year there has been a great number of cases of whooping cough, but there has been nothing done to check its spread by the Board and not much by private individuals. They say "it is six weeks coming, six weeks bad, and six weeks going" and thus they let them whoop.

There were cases of scarlet fever reported in three houses; none of these houses were placarded as far as I am aware, but fortunately none proved fatal. Instructions from medical attendants and the strong law of self preservation, were all the protection the public had.

Diphtheria was reported in some cases. The Medical Health Officer was instructed to placard the house of one, which was at a distance of six miles. On reaching the house the patient showed no symptoms of diphtheria, unless it was a piece of red flannel about the neck.

Attending physician notified Secretary by postcard weeekly.

We would recommend that in rural districts, those persons now responsible for reporting contagious diseases (attending physician and householders), be made responsible for the placarding infected houses, and that such cards be furnished to medical practitioners same as the notices of contagious diseases are now.

D. McMURCHIE, M.D.,
Medical Health Officer.

GWILLIMBURY, EAST.

Medical Health Officer's Report.

In accordance with the requirements of the statute regarding the public health, I submit the following report for the year 1888.

During the first half of the year the measles became very prevalent nearly all over the township, attacking both children and adults, a number of cases being quite severe and requiring medical attendance. Throughout the year there was also a number of cases of diphtheria, typhoid fever, malarial fever and scarlet fever. The general means of disinfection were observed, and none of these diseases spread to an alarming extent.

In October a case of smallpox was reported in the extreme north-eastern corner of the township. The disease was contracted in the adjoining township of North Gwillimbury. The Board of Health took immediate action, enforcing the vaccination Act in the northern part of the township to stop the spread of the dread disease from the north, quarantining the afflicted one and also the infected district, and taking every means to limit the disease. Vaccination was common in the greater part of the township. The case made a good recovery and the disease is supposed to be defunct and the township now in a satisfactory condition. All complaints of nuisances were promptly attended to by the Board.

W. ARMSTRONG, M.D.,
Medical Health Officer.

GWILLIMBURY, NORTH.

Medical Health Officer's Report.

I have the honour to make the following report as Medical Health Officer for the township of North Gwillimbury.

Our township has been visited with an epidemic of smallpox, beginning on the 10th October. The origin of the epidemic was from a young man, Sprague, North Gwillimbury, who had attended the Toronto Exposition. The disease was diagnosed on the 10th of October, but in the meantime a number of people had come in contact with the affected person. The fact that smallpox existed in rural townships necessarily created a good deal of disturbance in the community. At a joint meeting of the two Boards vigorous steps were taken for the suppression of the disease. I would here congratulate the Reeves of the respective townships for their untiring efforts in assisting their respective Boards of Health in getting the disease under control. I also thank them for individual assistance rendered to myself.

There were seventeen cases of the disease in all, and only one death.

We have fortunately had only one death, an infant, from the disease, and writing at this date I can reasonably expect that the danger is past.

In communities of so great an extent, difficulty is experienced in carrying out the means of protection. Both townships passed the compulsary Vaccination Act, and that has been carried out as far as practicable. It is true that we have had to contend with some persons so headstrong that they would not submit to vaccination, but on the whole I have to congratulate the people on their willingness to uphold the law, and do what we judge best for themselves and families.

My sincere thanks are due to Drs. Bryce and Lehman for valuable advice, as also to my assistant vaccinators for the efficacy of their work.

I have also to report two cases of typhoid fever in the township of Georgina, and one case of diphtheria. All these cases were under my personal supervision and no new cases of either disease have since developed.

Dr. Pringle, a co-practitioner in this district, has also been active in assisting with the vaccination of the people.

I think the people are to be congratulated in the rapid stamping out from the community of such a contagious disease as smallpox, and to the Boards of Health, with the addition of the gentlemen above named, I feel myself much indebted for so satisfactory a result.

T. B. BENTLY, M.B.,
Medical Health Officer.

HALDIMAND.

Medical Health Officer's Report.

I beg to submit the annual report on the sanitary condition of this township for the past year.

The type of contagious diseases which have been most prevalent in years past, viz. typhoid, malarial fevers and diphtheria, have in a very much milder form prevailed in some localities during the past year.

In the neighbourhood of Grafton there have been several cases of typhoid fever malarial fever and diphtheria, the causes of which were discovered and remedied.

Malaria still abounds in the locality of Grafton Grand Trunk Station. Although much improvement has been made in the way of elevating the road and some parts of the station yard, much yet remains to be done; and to perfect what has been only commenced, it will be necessary for this Board to prevail on the Grand Trunk corporation to make still further improvements.

From far-off parts of this municipality came occasional reports of contagious and infectious disease, but owing to the Health Act being improperly carried out no official report has been received.

I have to report the same complaint as in years before, that reports of diseases required by the Health Act in distant parts of this township are not made; and before this Board can obtain accurate reports of sanitary conditions, or before the annual report is as the Act requires, some means must be adopted to obtain official and true information.

I trust at the ensuing annual meeting this matter will receive your serious consideration.

W. W. BOYCE, M.D.,
Medical Health Officer.

HARVEY

Secretary's Report.

I have to report two cases of diphtheria in Harvey township during the present year; both of the patients recovered. One was sick sixty days and the other fourteen days, as reported to me by our Medical Health Officer, Wm. McCamus, M.D., of Bobcaygeon.

I am glad to have it to report that we are free from all contagious diseases, and that the general health of the inhabitants is good.

JAS. S. CAIRNDUFF,
Secretary.

HAWKESBURY, EAST.

Chairman's Report.

The Local Board of Health of the township of East Hawkesbury was organized in 1885, and for three years there was a good deal of diphtheria and scarlet fever, but for the last twelve months the township has been free from these diseases.

There still exists a pretty strong opposition to the working of the Board, notably by owners of cheese factories ; and, also, the trustees of the common schools do not all try to keep the water closets as clean as they ought to be, and in some cases have none on their premises.

In 1888 the Local Board of Health held three public meetings at different places and on different dates, and had the Act on Public Health explained in both English and French, and found it to have its effect for good when the people understood the intention.

ROBERT LEE,
Chairman.

HAWKESBURY, WEST.

Medical Health Officer's Report.

This municipality was entirely free from contagious diseases till the latter part of the summer. During the hot weather the sickness among children was less than usual, and the type of sickness was such as to render the disease more easily controlled. After the wet weather began typhoid fever and diphtheria made their appearance together, with quite a number of cases of pneumonia, bronchitis and other lung troubles. There have been seven cases of diphtheria, eight of typhoid fever and no deaths.

The Sanitary Inspector reports that the township is in a very fair sanitary condition. He says, however, and I agree with him, that the village cannot be kept in a sanitary state so long as the present imperfect system of drainage is continued.

D. J. McINTOSH, M.D.,
Medical Health Officer.

HAY.

Secretary's Report.

In compliance with the provisions of the Health Act the township council appointed a full Board of Health at its first meeting. The Board considered it necessary to call one meeting only, early in the spring. A complaint had been made that a pond of stagnant water adjoining the schoolhouse grounds in the village of Zurich, might become the source of disease ; also, that an open drain in the same village containing filth and stagnant water, was detrimental to the public health. The Board acted promptly in the premises and caused the nuisances to be abated.

The work of the Sanitary Inspector consisted in causing the removal of two pig-pens in the village of Zurich, and preventing the accumulation of manure heaps owned by two different parties in the same village, and inspecting and causing a tannery and slaughter-house to be kept purified and cleanly. He also examined the grounds and water closets in some of the school sections of the township and had the same cleansed wherever it was found necessary.

The general health of the people of the township has been very good during the year. There has been two outbreaks of scarlet-rash with no reported fatal results. A few cases of diphtheria occurred during the spring and fall. All recovered so far as is known. Three cases of typhoid fever were reported, and a number came under my own observation that were not reported by medical men. Of the three reported two proved fatal—both being brought home sick with the disease from outside municipalities, but through the skill of the physicians the disease was prevented from spreading.

S. FOSTER,
Secretary.

HIBBERT.

Secretary's Report.

The Local Board of Health for the township of Hibbert had no occasion to display any extraordinary activity during the present year, because there was nothing unusual in the general condition of the health of the people to justify it No reports have reached me of any infectious or contagious disease breaking out in the municipality, except one case of typhoid fever and that an imported one, which was not accompanied by any bad results. The Local Board of Health took no steps towards enforcing a general system of vaccination, seeing that there was no apparent cause for immediate action, and to avoid the expense which such a course would entail on the township. Dr. A. McTavish, Medical Health Officer, has, I regret to say, become an invalid; and as he had given up the practice of his profession and moved away from the municipality, I fear he will not be able to make any report.

J. CARROLL,
Secretary.

HILLIER.

Medical Health Officer's Report.

I beg to report six cases of diphtheria during the year occurring in the township, which were reported to me by their medical attendants, with three recoveries and three deaths, all of which were quarantined, and after recovery or otherwise buildings and clothing thoroughly disinfected. The only nuisance brought under my notice was a slaughter-house in Consecon. I visited and examined it thoroughly on July 4, 1888, and found building in a clean condition; but occupant had moved apparatus the night previous. It was situated too near the street and too close to dwellings, contrary to law. On the first of October I was notified that Joseph Hays was slaughtering on said premises. I ordered him to cease doing so or I should be compelled to take action in the matter. I have not had any complaint relative to it since.

J. B. RUTTAN, M.D.,
Medical Health Officer.

HINCHINBROOKE.

Secretary's Report.

I am happy to inform you that the Board of Health of the township of Hinchinbrooke has not met this season so far, there being no necessity for it. The township seems to be in a perfectly healthy state. There have been no contagious nor other diseases reported. There has been no sickness to speak of, and there have been but two deaths, and those from old age and old standing complaints. The Board of Health has had no interview with their Medical Health Officer; consequently he has no report to make. I write from my own knowledge of the state of the health of the community, and if the Board was in session they would adopt it. Hoping it will meet with your approval,

JOHN HAMILTON,
Secretary.

HOPE.

Secretary's Report.

I have much pleasure in stating that during the year there has been no epidemic of a serious character within the municipality.

There have been a few cases of diphtheria, two resulting fatally; but upon strict quarantine measures being enforced by isolating the families afflicted, and a liberal use of proper disinfectants, the disease has in each case been confined to the parties originally attacked.

Complaints have been made to the Board of Port Hope of parties dumping garbage and other refuse matter upon the lake shore, east of the town, which in hot weather decomposes and exhales noxious gases, poisoning the atmosphere and making it at times unbearable to residents of that vicinity.

Printed notices were posted prohibiting all kinds of refuse matter from being deposited on the beach, and as a result the nuisance has been somewhat abated. Other and more effective measures may be required in order to put a full stop to the pollution of this neighbourhood.

The several slaughter-houses and cheese-factories situated within the municipality have been inspected periodically by the Inspector, and found to be kept in good sanitary condition.

It has not been considered necessary to enforce the law respecting the inspection of the premises of vendors of milk, no complaints having been made to the Board as to the condition of the byres or to the quality of the milk sold.

In conclusion I would suggest that the duties of the Sanitary Inspector be extended to the inspection of public school premises, as complaints have been made of the unsanitary condition of the same; also, that cards be printed for the use of the Medical Health Officer, in order that infected houses and districts may be properly placarded.

E. E. DODDS,
Secretary.

HOUGHTON.

Secretary's Report.

In reporting on the sanitary condition of this municipality, and the work of the Local Board of Health during the past year, I am sorry that I cannot, as in former years, report immunity from contagious and infectious diseases. There have been fifteen cases of diphtheria reported, of which number seven proved fatal. The proportion of the cases terminating fatally shows the disease to have been of a virulent type. There were three outbreaks of the disease in as many localities, sufficiently distant from each other that there is no probability of any connection between them. From the most reliable information obtained as to the causes of these outbreaks, it is almost certain they were not caused by anything existent within the municipality. The first affected in each family had contracted the disease from patients suffering in other municipalities, others from persons who had been away and returned home, being afflicted therewith on their return. The Board, when aware of these outbreaks, took such steps as were deemed best calculated to prevent the spread of the disease. Schools were for a time closed, isolation effected, and fumigation and disinfection employed. No Health Officer had been appointed, the duties of that office having been intrusted to the member of the Board residing nearest the afflicted localities. At the last meeting of the Board there was not a case of diphtheria known to exist in the municipality, and none have since been reported to the secretary.

GEORGE BUNDY,
Secretary.

HOWE ISLAND.

Secretary's Report.

I have to inform you that this township was free from sickness of any kind for the current year, except one case of typhoid fever which resulted in death. It was contracted in Kingston where the young man worked, but he died in this township where his parents lived.

The Medical Health Officer lives in Gananoque; he was not called on the present year, so I think he would have no report to make.

Take it all through, this is a healthy part of Ontario.

M. MELVILLE,
Secretary.

HULLETT.

Secretary's Report.

I have the honour to report that the sanitary condition of the municipality of the Township of Hullett has been very carefully watched during the past year by our Local Board of Health and its officers.

Provision was made in the early part of the year for inspecting the cheese-factories, slaughter-houses and other industries in the township, according to law, which was done. No reports of nuisances, infectious or contagious diseases were reported to the Board during the year.

We had a few cases of typhoid, and one case of diphtheria ended fatally.

JAMES BRAITHWAITE,
Secretary.

HUMBERSTONE.

Medical Health Officer's Report.

I beg to submit to the Board the following report upon sanitary points coming under my notice during the year. Sanitary duties this year seem to have been well recognized by those officially interested. The Sanitary Inspector has been reasonably active in looking up and abating nuisances, such as uncared-for piggeries, slaughter-house sources of infection, and correcting in places pernicious water-closet arrangements, which would have, if left alone, produced some form of zymotic disease.

My attention was called during the early part of the past spring to a diseased specimen of pork. The hog had been slaughtered by its owner in an adjacent municipality; its carcase carried and delivered to the purchaser, living in Humberstone, who paid for it; but finding its kidneys had been affected by abscess I ordered it to be buried. My action was sustained by the justices before whom action was taken by the purchaser to recover his money. I have had some few cases of infectious diseases reported to me in the past few months—one case of scarlatina, by Dr. J. B. Neff. The house was duly placarded, isolation and disinfection adopted, and the case recovered; the disease did not spread. I had a similar case of my own—the management and result similar. Several cases of scarlet fever were reported to me by Dr. N. Brewster, of Ridgeway, Bertie; they were the children of Frank Near, of this township. The cases presented a mild form of the disease.

There was only one case of typhoid came under my notice. I took personal supervision of all cases of an unsanitary condition, and had them satisfactorily remedied.

Owing to the smallpox in Buffalo our council ordered a general vaccination in the township, and I vaccinated, up to the present, nearly two hundred persons.

I have visited some of the school sections, where I have vaccinated quite a number —some accepted vaccination kindly, others otherwise; one trusty corporation official advised me not to go to the school house. If the vaccinations had been free of charge, I would have done more of them, and even when I have tried to get the fees, I have only succeeded partially.

M. F. HANEY, M.D.,
Medical Health Officer.

HURON.

Chairman's Report.

The Board appointed Francis Shannon, of Ripley, Sanitary Inspector. He visited all the houses and premises in the village of Ripley and several other places in the township, and reported all in a good sanitary condition, with one or two exceptions, which were promptly attended to. There is a system of dry-earth closets in the village. The health of the township has been good during the year, only two cases of diphtheria having been reported, which the Medical Health Officer attended to.

WILLIAM WILSON,
Chairman.

INNISFIL.

Medical Health Officer's Report.

I beg to report that during the year there has been no more than the usual amount of sickness in this municipality. A few cases of diphtheria existed during the month of November in the south end of the township; but, apart from this, we have, I am thankful to say, been remarkably free from contagious diseases. The existence of smallpox in the adjoining township of North Gwillimbury gave cause for considerable alarm; but the measures adopted by the Board, although not so stringent as they perhaps might have been, prevented its introduction into our midst. I have recently vaccinated a large number of persons, principally children; still, I have found a great many, in some cases whole families, who decline to take advantage of this protection, and until your Board decides to make vaccination compulsory, it will never be properly and thoroughly attended to. This neglect on the part of heads of families does not arise from any objection to the operation, but from sheer carelessness, and from the idea that it will be time enough to attend to it when the smallpox is in the next house.

THOMAS BRUNSKILL, M.D.,
Medical Health Officer.

KEEWATIN.

Secretary's Report.

In presenting to you the report of the Local Board of Health for the Township of Keewatin for the year 1888, I have to state that the health record for the township has been remarkably good. The rules for cleanliness have been well observed, and there was no necessity for the council to appoint a medical health officer or sanitary inspector. The removal of a few nuisances was the only work requiring the attention of the Board.

There has not been any contagious disease. This locality is favourably known as a health resort.

T. A. WILSON,
Secretary.

Keppel.

Secretary's Report.

In accordance with statute I beg leave to submit my report for the past year. I have much pleasure in stating that the general health of the township has been very good, only one case of contagious or infectious diseases having been reported to me, it being a case of scarlet fever in a very light form, and was confined to one person. The death-rate of the township has also been very low, the total number of deaths being 33, caused by old age, etc. The members of the Board have had very little trouble with unsanitary conditions. There was only one complaint of a nuisance during the year.

GEORGE ATHEY,
Secretary.

Kincardine.

Medical Health Officer's Report.

I have the honour of submitting my annual report as Medical Health Officer. It affords me pleasure to be able to say that the health of the people of the township has been as usual very good. We have been free from diphtheria, scarlet fever, and all particularly contagious or infectious diseases due to a want of sanitary precautions in many cases. True, we have had a case or two of typhoid fever, none of which proved fatal; but the cases have been of a mild character, and not traceable to any cause requiring attention from the Board of Health. Complaints to the Board during the year have been few, and these have been attended to.

THOMAS BRADLEY, M.D.,
Medical Health Officer.

Kinloss.

Medical Health Officer's Report.

In submitting this my second annual report for the township of Kinloss, it affords me pleasure to congratulate you on the almost entire absence of any of the zymotic or infectious and contagious diseases within your township during the year now ending. Early in the summer my attention was called to a severe case of diphtheria on the 12th concession, but by insisting on complete isolation and allowing no intercourse with any of the neighbors, we succeeded in confining it to the one house. I have again to call your attention to the very unsatisfactory sanitary condition of many of the school houses and grounds, and would recommend a thorough inspection with a view to a better system of ventilation. To the want of proper ventilation in our schools is to be attributed the cause of a great many of the minor complaints, particularly headache so frequent among school children.

Trusting, for the sake of little sufferers, that you will give this matter your most serious attention, and enter into it with that energy which has hitherto characterized the Kinloss Board of Health.

JNO. S. TENNANT, M.D.,
Medical Health Officer.

LAXTON, DIGBY AND LONGFORD.

Secretary's Report.

I beg to present my annual report of the health of this municipality for the past year.

I am happy to say that our municipality has been free from any contagious disease for the last year. There were a few cases of measles in the beginning of the year, and the Board dealt with the disease according to the Health Act. The children of the school section were ordered to stay away from school until they were better. There were no deaths. I have heard of nothing since. The Board has no medical health officer, as the municipality is free from disease.

WILLIAM MAXWELL,
Secretary.

LOBO.

Secretary's Report.

The Secretary of the Board, in compliance with the requirements of the Public Health Act of 1884, begs to report as follows:—

The Municipal Council of the township of Lobo at their first meeting in January this year appointed a Local Board of Health. The Board met, organized and appointed Robert Boston chairman.

P. L. Graham, M.D., was appointed to see that all the school houses in the township were disinfected, and that all the wells and outbuildings were in a proper condition. The Medical Health Officer was instructed to procure all necessaries for the Alway family, who were sick with diphtheria. Under his charge diphtheria was confined to this one house. Two persons died. One of the attendants on the family took the disease while there, and was kept there till better. The premises were disinfected as soon as the inmates were better.

The Board attended to all matters that came under their notice. The general sanitary condition of the township is very good.

E. R. BARCLAY,
Secretary.

LONDON.

Medical Health Officer's Report.

In submitting this report I do so under difficulties, as many of our practitioners have not reported the cases of contagious disease as required by law, and therefore a full report is impossible.

During the past year I visited the cheese-factories in this district, and found some of them in a very unsanitary condition. I ordered them to be properly cleansed and disinfected according to the report formerly sent in by me.

Since my last report I have attended eleven cases of diphtheria and one of typhoid fever. none of which have died; and there have been reported to me twenty-one cases of diphtheria, of which six died, one case of typhoid which recovered, and two of scarlet fever which recovered. At present I am not aware that there are any cases of scarlet fever in the district, though there may be some that have not been reported.

During the past year the township has not been in a healthy condition until the last few months, during which there has not been so much sickness, though there is considerable even now.

GEO. SHOULTS, M.D.,
Medical Officer.

LUTHER, EAST.

Medical Health Officer's Report.

I have the honour of submitting my report as Medical Health Officer for East Luther. I am glad to say we have been tolerably free from contagious diseases. I have had no reports of typhoid cases, and only one of diphtheria brought to my notice, which terminated favourably. There were two cases also of scarlet fever reported in the spring. The Board had some trouble from a nuisance caused by a resident of the village depositing night soil on his garden, and took steps to punish the offender and abate the nuisance.

The Inspector, at my request, visited on two different occasions the butchers' shops and slaughter-houses, and reported favourably. I had to condemn one dwelling-house (though I believe the residents have not yet removed), where four people were living in one room, at the door of which were three water-closets in constant use. The wife of the occupant was down with sickness, which could not be wondered at. I would call attention to the fact that at the public school no water accommodation is provided unless what is carried there, and would suggest that the Board take steps to have it provided. A new cemetery has been opened this year near the village, but so far has not been inspected or reported on. I believe though from personal observation that it is well situated.

R. R. HOPKINS, M.D.,
Medical Officer.

LUTHER, WEST.

Chairman's Report.

Your Board of Health beg leave to report :—

That after their appointment they met and organized and laid out the township into sections, one section to be under the supervision of a member of the Board, and if any case was brought to his notice he was to report to the Chairman, who would call a meeting of the Board to take such steps as were necessary, and we are happy to say that there was not a single case brought to our notice.

In the early part of the year there were two isolated cases of diphtheria, both of which proved fatal, but the disease was stamped out and did not spread.

That so far as known to us there is no infectious or contagious diseases in the township, and the general health at the present time is good.

JAMES ISLES,
Chairman.

MAIDSTONE.

Medical Health Officer's Report.

I am again pleased to be able to say that we have escaped this year from any contagious disease of sufficient prevalence to be called epidemic. There have been two slight outbreaks of that dread disease, diphtheria, which still seems to linger in some sections all over North America. In neither of the outbreaks did the disease spread. We have had some measles and croup. There has been this year a greater prevalence of typhoid than usual, though I have heard of only one death from it.

I would urge the Board to persevere in their efforts to have each family in the municipality clean thoroughly, at least once a year (in the spring preferred), their respective wells.

The importance of this, and also the drainage of door-yards and barnyards cannot be overestimated in its effects on diminishing zimotic diseases.

Owing to the existence of smallpox in at least two points in Ontario, it may become a question with the Board to have a general vaccination performed throughout the township.

S. RICHARDSON, M.D.,
Medical Health Officer.

MANVERS.

Medical Health Officer's Report.

I have to report that during the past year an epidemic of measles prevailed through the township, but as the type was not malignant in its nature very few fatal cases occurred. A few isolated cases of scarlet fever and diphtheria occurred, but by the judicious management of the physicians in attendance, and the observance of the sanitary laws by the families where the cases existed, the contagion was kept from spreading, and to-day I am not aware of a case in the township.

About half a dozen cases of typhoid fever occurred in Janetville and vicinity, one ending fatally. The fever was caused by a dry mill pond, the water having been let off for repairs, the old rotten logs and sawdust giving rise to the poison which caused the fever, and at one time there was grave reasons for suspecting a general outbreak ; but by the advice of Dr. Allan, myself and others, the repairs were hurriedly completed and the water raised, and since the disease has about ended. I believe only one case has occurred since. I am pleased to notice that in the rural parts more attention is paid to sanitary laws than formerly.

T. G. BRERETON, M.D.,
Medical Health Officer.

MARIPOSA.

Secretary's Report.

The Local Board of Health of the Township of Mariposa would respectfully report as follows :—

Our Board was duly organized and held its first meeting in February, 1888.

We have not experienced any trouble in carrying out the provisions of the Public Health Act, as the residents of the township have shewn a willingness to carry out the recommendations of our Sanitary Inspector.

The report of the Inspector shews that he has made since our last report 100 domicillary visits, carefully examining cellars, wells and privies, and in all cases where he found it necessary gave instructions to have cellars, wells and privies cleaned out, and in some cases to have the privies filled up, which instructians were generally promptly carried out.

He also inspected each of our public schools twice during the year, and carefully examined the wells and water-closets in connection with them.

The several physicians practising within our municipality were furnished with a supply of blank forms for reporting cases of contagious diseases, and were also written to by the Secretary urging them not to fail in making such returns to the Board.

I have had reported from the medical practitioners since my last report nine cases of diphtheria, two proving fatal ; two cases of scarlet fever, recovered ; five cases of measles, recovered, and three cases of typhoid fever, recovered.

In the cases of diphtheria, as soon as I received notice of the same, I had the house placarded and the disease did not spread.

We consider that our municipality, numbering over 4,000 inhabitants, is in a fair sanitary condition, and certainly in our villages much better than before the formation of the Health Board. The general health of the people is good, and we have no hesitation in reporting that our people are becoming more interested in sanitary matters.

JOHN F. CUNNINGS,
Secretary.

MARKHAM.

Medical Health Officer's Report.

In compliance with the Public Health Act I beg to submit my report for 1888 :—

I regret to say that the medical men practising in Markham Township, as a rule, do not report cases of a contagious nature. I cannot make a tabulated report, as my information is considerably heresay. There have been a number of cases of whooping cough and typhoid fever, a few cases of scarlet fever and a great many cases of diphtheria, with a large percentage fatal. The cases that were reported to me I attended to, placarding, disinfecting, etc., to prevent spreading to other families if possible. By far the greatest number of cases of diphtheria were in the 2nd and 3rd concessions, but there were cases scattered over the whole of the township. There was a family near Stouffville exposed to smallpox, which, by direction of Dr. Bryce, I quarantined.

At the present time (December) the township is quite free from contagious diseases.

G. M. FARWELL, M.D.,
Medical Health Officer.

MARYBOROUGH.

Medical Health Officer's Report.

During the year I have inspected a number of places which I expected were in an unhealthy condition, but in only two instances found them so. The cause was at once removed.

Contagious diseases were very few there, having been reported only five typhoid fever cases, with four recoveries and one death. There was only one case of diphtheria, with recovery of the same.

The people of Maryborough have reason to congratulate the Board for the manner in which they have acted during the season.

C. W. HUNT, M.D.,
Medical Health Officer.

MELANCTHON.

Secretary's Report.

The Board of Health for the Township of Melancthon beg leave to report that the general health of the township for the past year has been good, the death-rate being considerably less than last year. Last September a family living in the City of Toronto had a very malignant type of diphtheria. Members of the family who had not taken it were sent by railway to their friends in this township, without their friends knowing of the disease, and the children sent up mingled freely with the children of this neighbourhood. As a result five cases of a most malignant character of diphtheria broke out, and not until thirteen cases had broken out and five deaths took place could it be brought under control. It was fortunate that the cases as they occurred were isolated at once. If it had happened in a more thickly populated part of the township, the result would have been very serious.

Had the family referred to been properly isolated and quarantined by the health authorities of the City of Toronto, we would not have had the disease and the loss of valuable lives therefrom in our township. We may therefore thank those self-eulogized and badly-named sanitarians of Toronto's Local Board for all the trouble.

JAMES BROWN,
Secretary

METCALFE.

Medical Health Officer's Report.

I have much pleasure in submitting to you my annual report for the Township of Metcalfe for the year 1888.

I find a very great deal of difficulty in giving an accurate report of the contagious diseases that have been most prevalent in the township, owing, I think, to the want of attention paid by practitioners to the reporting of cases.

The general health of the municipality has been good, with the exception of a few cases of diphtheria of a very mild form ; none fatal.

In regard to the sanitary condition, the Sanitary Inspector made an inspection last spring, and attended to all the complaints during the summer.

A. NIXON, M.D.,
Medical Health Officer.

MIDDLETON.

Medical Health Officer's Report.

I beg to submit to you for your consideration my annual report of the sanitary condition of this municipality and the public health of its residents, as required of me by the statutes of Ontario. During the year past there has been a comparative freedom from all diseases of a contagious nature, and the public health has been fully up to the average. With the exception of a few slight outbreaks of diphtheria in the eastern and western portions of the township, very little disease of an epidemic character has visited us. The total number of cases of diphtheria would probably number about twenty-five or thirty, whilst the number of deaths from this disease was three in the eastern and probably an equal number in the western division. The causes leading to these outbreaks are unknown. In one single instance it arose from an imported case, and in all others no direct cause could be found, excepting a want of sufficient care in improving the sanitary conditions of the premises. In one instance the residence, a log-house, was built on the ground—no air allowed to circulate underneath the dwelling—insufficient light given by means of windows, thus causing a dampness of its walls within.

A marked improvement in the treatment and general supervision of diphtheria patients has also been visible. In every instance they were confined to a single house, and all intercourse between the dwelling and the public cut off, so that in no single instance, to my knowledge, did the disease spread to a second family or individuals other than the ones first affected. The custom formerly adopted of holding public funerals has also been abolished, and now when deaths have occurred, the remains have been almost immediately interred by members of the family or other persons not liable to become infected. Thorough ventilation and disinfection of houses has also added much to the freedom from this disease.

Measles and scarlet fever have been unknown in this district during the year. Varicella was prevalent, with no deaths.

During the autumn months a number of cases of typho-malarial fever occurred in the central and western divisions of the township, and several deaths occurred from this cause. For the most part these cases were found in low districts, where the land was new and much of the soil broken up for the first time. In at least one family the disease may be attributed to the water used for domestic purposes. In this instance a well had recently been dug near the corner of the house, where for years previous to this water and filth from the kitchen had been poured out and allowed to penetrate the soil, thus finding their way into the newly erected well.

Your Board of Health have done the township good service. During the early part of the year it became evident that the burying grounds lying adjacent to and in the village of Delhi, would become a nuisance if further burials in them were allowed. Your Board of Health held a meeting and very wisely decided to prohibit parties from burying in the same. This order has been enforced and a new cemetery has been purchased outside of the village, and many bodies transferred from the old cemeteries.

A second meeting was called in November to take into consideration the matter of compulsory vaccination. Not deeming it necessary that it should be made compulsory, they appointed a Medical Health Officer for the township, and gave notice through the newspapers of such appointment, that all who chose to do so might avail themselves of the opportunity to be vaccinated; and also provided for free vaccination of all persons not able to pay the necessary fee for the same.

On the whole I consider the sanitary condition of the township to be very satisfactory, and the general health of the people a matter for congratulation of the persons having charge of the same.

J. F. HOUSBERGER, M.D.,
Medical Health Officer.

MONO.

Secretary's Report.

I beg to submit to you the annual report of the Board of Health for the year 1888. There have been no contagious diseases reported.* There were some cases of supposed diphtheria; if they were of the real type they were exceedingly mild in their nature. No deaths occurred. Our Council has not appointed a Medical Health Officer; they considered that it was not necessary.

ANDREW HENRY,
Secretary.

MOORE.

Medical Health Officer's Report.

I beg to submit the following report for the township of Moore:

Nothing of importance occurred until the 9th of November, when the Board organized in response to a report of Dr. Ames, of Brigden, that a case of smallpox existed in an Indian camp, on a bush farm five miles from a village and a safe distance from any dwelling. The patient was at once isolated, the rest vaccinated successfully, and a strict quarantine established. Three weeks from the appearance of the rash, the cook, a delicate female, took ill with well marked premonitory symptoms of smallpox and died on the fourth day. Every possible precaution will be taken by our Board before releasing them from quarantine. The cause of the outbreak was a visit to Sarnia, where the disease existed, by the Indian first attacked.

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* If there was no Medical Health Officer to look after those cases, how are we to know whether they were or were not real diphtheria? Mere supposition in cases of contagious diseases is very dangerous We hope that in future the lives of people will not be endangered by thinking the disease *was not*, when probably *it really was*, diphtheria.—[ED. REPORTS.]

The Board ordered all the school children to be vaccinated, which has been done. I was surprised to find that not more than 15 per cent. had been done before.

We received a visit from Dr. Lehman, your Inspector, who approved of all that had been done, and advised compulsory vaccination. Our Council have not taken any action.

On the 17th of November a mild case of varialoid occurred in a farm house, evidently as a result of a visit to Sarnia. As no new cases have developed, we hope the disease is stamped out in this township. Five cases of typhoid fever occurred in the first week of this month, within one mile of each other; cause cannot be traced.

The schools visited in this section have not the first sign of any means of ventilation, and the majority are in a filthy condition. The Local Board and Council are very remiss in their duty if they do not devise some means to remedy this disgraceful condition.

F. B. WILKINSON, M.D.,
Medical Health Officer.

MOSA.

Medical Health Officer's Report.

In compliance with the requirements of the Public Health Act, I have the honour to lay before you my annual report.

I am pleased to be able to report that the sanitary condition of the township is excellent. During the year the township has not been visited by any widespread cause of mortality or sickness beyond the ordinary causes that are at work from year to year, and over which we have no control.

The Board of Health met and organized during the year, and we are prepared to meet any emergency should such arise.

J. WALKER, M.D.,
Medical Health Officer.

MURRAY.

Medical Health Officer's Report.

I have the honour of submitting my annual report as Medical Health Officer of this municipality.

It affords me pleasure to state that the health of the township is good at the present time.

During the past year my attention has been called to several outbreaks of diphtheria. but, by the prompt and efficient action of your Board in regard to disinfection, isolation. etc., the disease has always been confined to the premises, with one exception, and that with fatal results.

During the year we had fifteen cases of diphtheria, one of which died; two cases of typhoid fever and two of scarlet fever, all of which recovered. One family of five were all down with diphtheria at one time, the cause being a filthy condition of the premises, which I am happy to state has been entirely removed. The other cases could not be traced to any local determining cause.

There have been no complaints lodged before me about nuisances of any kind, and I take great pleasure in stating that the township is at present particularly free from all those places which would readily generate disease.

I would ask your attention to the filling up of cesspools. old cellars etc. This has been done in the past with beneficial results. I would further ask your aid in the prevention of the erection of water-closets adjacent to wells, as several cases of sickness have occurred this year under my notice, due to this cause.

W. H. McKAGUE, M.D.,
Medical Health Officer.

McKillop.

Medical Health Officer's Report.

I have again the honour of submitting to you the annual report of the sanitary conditions of your municipality.

On May 28th the first meeting of the Board was held. At that meeting remedial steps were taken to remove the only nuisance complained of.

The Board also gave me instructions to have all the children attending the schools in the township vaccinated. I am happy to report that such instructions were carefully carried out.*

During the months of July and August an epidemic of dysentery broke out, and apparently spread over a considerable section of the municipality. It was of a severe type, and attacked alike both old and young, and was the immediate cause of several deaths. However, apart from this disease, your municipality has been fairly healthy, and at the present time I can congratulate you upon its immunity from any infectious disease.

W. HANOVER, M.D.,
Medical Health Officer.

Secretary's Report.

The Board of Health only met twice this year.

The nuisance complained of at the first meeting was a smell arising from a cheese factory and a pig pen in connection therewith. The factory was on one side of the road and the pig pen on the other.

The Board ordered the Medical Health Officer to vaccinate all the children in the various schools at the expense of the municipality, and at the meeting on the 17th Nov., he presented his bill of $120 for vaccinating 480 children, and $23.50 for vaccine, from Palmerston Vaccine Farm. The Board of Health gave an order on the Treasurer of the municipality for the amount. Some of the children were vaccinated the second time, and now report has it that there is not over 25 or 30 in the municipality that had the operation successfully performed, In one school, out of 20 vaccinated, only 3 have taken, and the next out of 58 vaccinated, only about 6 have taken. There were no certificates given nor required by the Board of Health. Of course the Board has learned something, but thinks that the knowledge so curiously obtained was dear bought.

JNO. C. MORRISON,
Secretary.

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*As will be seen the Medical Health Officer distinctly states in his report that his instructions to vaccinate were *carefully* carried out. We suppose this means that vaccinations were successfully performed. If, however, there were 17 failures out of 20 vaccinations, and 52 out of 58, we fail to see the success of the movement. The Council should employ some person to visit all the schools, to ascertain the real state of matters, and note down the total number operated on and the number showing good marks.—[Ed. Reports.]

McNAB.

Secretary's Report.

As required by the 24th section of the Public Health Act of Ontario, I beg leave to report :—

That scarlatina made its appearance in two or three different localities in the township during this year, and as far as known there were only two cases fatal. The physician in attendance did not report to me, but the way I received the information was by the registration of their deaths, and as the inhabitants in the localities where the disease was used every precaution to keep it from spreading, there was no necessity of the Board incurring the expense of enforcing any sanitary measures. I may state that the disease in general was of a very mild type, and was, therefore, not difficult to stamp out.

I am happy to report that our municipality continues to enjoy almost a perfect state of immunity from any kind of epidemic or contagious disease, and my long residence in the township warrants me in stating that unless disease is imported amongst us, no sanitary or other measures are required to be enforced by the Board of Health.

J. D. McNAB,
Secretary.

NICHOL.

Secretary's Report.

The Local Board of Health has the satisfaction of reporting that during the year now drawing to a close the general health throughout the township has been very good, no epidemic of any kind having been prevalent. Wherever any nuisance was ascertained to exist its immediate removal was attended to.

Dr. Paget, of Elora, was appointed Medical Health Officer and Sanitary Inspector for the municipality for the current year, and he has reported in writing to the Board that according to orders he had visited the House of Industry and found all sanitary arrangements in perfect order, and also the slaughter-house near Fergus in good condition.

JAMES McQUEEN,
Secretary.

NEPEAN.

Medical Health Officer's Report.

The general sanitary condition of the municipality will be found to compare favourably with the more healthy of those throughout the Province, there being, with the exception of the numerous slaughter-houses and the Holland Farm, no locality from which we might reasonably expect poisonous effluvia to so contaminate the atmosphere as to favour the spread of contagious diseases.

The former, some twenty in number, were personally inspected by me in company with the Local Health Officer, Wm. Gordon, in the month of August last, and found in each case a very satisfactory sanitary condition. Of the latter I have heard no complaints since our unsuccessful attempt to suppress the nuisance last March.

Owing to the fact that the law respecting the registration of contagious diseases has been very much disregarded, it is impossible to give any estimate of the number of such cases during the year.

Of diphtheria, the only contagious disease of which I received any returns, three cases have been so far reported, with a mortality of two.

No cases of typhoid have up to the present been reported, yet I regret that this is no indication of the prevalence of the diseases during the year.

At the request of the Public School Inspector, I inquired into a reported outbreak of scabies among the pupils of School Section No. 5 in September last. A close examination of all the children limited the trouble to three alone, all members of the same family. Exclusion of these from the school until reported free from infection by their attending physician, and a complete and thorough disinfection of the building reduced the danger of transmission to any of the others to a minimum; no more cases have since been reported from that source.

Two nuisances in the way of pig-styes too near dwellings, one in Mount Sherwood and the other in Archville, have been abated.

In conclusion I would congratulate the Board on the absence of any epidemic, and on the general healthfulness of the township.

W. FENTON GRAHAM, M.D.,
Medical Health Officer.

NISSOURI, EAST.

Secretary's Report.

The Board of Health of the Township of East Nissouri, beg leave to submit their annual report.

The Board held its first meeting on the 11th February, at which it was resolved to get some large posters printed calling upon the people on or before the 15th May, to clean up their yards, to empty and disinfect their privy-vaults, and to abate all and sundry causes which might tend to disease; and also, requesting all persons who were aware of the existence of nuisances, or removable unsanitary conditions in their several localities, to send written notice thereof to the Secretary of the Board.

These notices having evoked no response and, there being no dangerous cases of sickness reported, the Board has not been called upon to meet.

There have been two or three isolated cases of typhoid fever reported, but in all cases they have been brought in from other localities, and have in no case extended beyond the individual first affected, and have in each case yielded to the remedial measures adopted by those in charge of them.

We are happy to be able to report that the health of our community has been quite satisfactory, and continues to be so at present.

C. R. COMMANDER,
Secretary.

NORMANBY.

Medical Health Officer's Report.

Normanby being favourably situated with regard to its drinking water supply and also its drainage, malarial and zymotic diseases are almost unknown. During the present year we have had an occasional case of typhoid fever, but in nearly all the cases the disease was contracted in other localities.

Diphtheria has also occurred sporadically but not epidemically. It appears to be difficult to completely isolate these cases, as neighbours can hardly be restrained from visiting places where disease exists.

Scarlet fever was almost entirely absent during the year.

Measles have not been troublesome.

The principal business done under the supervision of the Board of Health was an inspection of the sanitary condition of the villages, school premises, wells, butter and cheese factories.

The work of the Board seems to be appreciated by the public.

P. McLEAN, M. D.,
Medical Health Officer.

NOTTAWASAGA.

Secretary's Report.

As Secretary of the Board of Health of this Municipality, I beg to report as follows:—

Since the receipt of your favour of the 19th ult., the Board met and the Chairman reported that the Board had nothing to report except the very healthy condition of the township and its immunity from all contagious or infectious diseases during the whole year.

ANGUS BELL,
Secretary.

ONEIDA.

Chairman's Report.

The work of the Board this year has been very light, and we have had no meeting except the one to-day to submit the report. Each member of the Board took upon himself to attend to any matter in the interests of the public health that he deemed necessary, thus obviating a regular meeting of the Board and saving expense.

The removal of the gentleman appointed as Medical Health Officer, Dr. A. K. Sturgeon, has left us without a report of the sanitary condition of the municipality. We are persuaded, however, that no disease exists that needs the interference of the Board. If any has existed during the year, the persons mentioned in sections 46 and 49 have either, through wilfulness or ignorance, failed to obey the instructions of said sections; and of course nothing was given us to do in that line. The only work of any kind performed during the year was the ordering of certain dead carcasses buried. I have pleasure in stating that the expenses of the year is much less than that of any other year.

MATTHEW SPRATT,
Chairman.

OPS.

Medical Health Officer's Report.

The health of the inhabitants of the Township of Ops continues so exceptionally good that I have nothing of sufficient importance to justify any lengthy report.

During the past year no epidemic or cantagious disease, except a few cases of whooping cough, has shown itself, and we may again congratulate ourselves on immunity from this class of disease.

THOMAS W. POOLE, M. D.,
Medical Health Officer.

ORILLIA—NORTH AND SOUTH.

Chairman's Report.

In accordance with statute your Board of Health beg to report that the work of your Board has been very light for the year that is now drawing near to an end. We have had occasion to meet only twice. There has been no communications of nuisances of any sort, with the exception of one dead animal, east of Washago, which was promptly removed at the expense of $1.00 to your municipality. Your Medical Health Officer made no report to your Board this year, for the reason, I suppose, that he had nothing of any importance to report. Therefore your Board has great pleasure in congratulating you on the good sanitary condition of your municipality. There has been no infectious or contagious diseases that your Board have heard of.

ARCHIBALD THOMSON,
Chairman.

OXFORD, EAST.

Medical Health Officer's Report.

My official work during the year has been very light, as the township has been almost free from contagious diseases. There have been a few cases of typhoid fever, all confined to one family at Oxford Centre, with one death; the remaining members who were attacked are either convalescent or becoming so. There have also been a few cases of diphtheria of a mild type, but no deaths. I would strongly urge the adoption of the suggestion made by the late Dr. Thrall, in his report for 1887, with regard to the introduction of the dry-earth system of the disposal of sewage in our public schools, as there is no doubt that, in many cases, diseases arise from germs emanating from the present water-closets. If the same system were more generally adopted in private houses it would be conducive to the health of the people.

J. McLURG, M.D.,
Medical Health Officer.

OXFORD, NORTH.

Secretary's Report.

The Local Board of Health for the township of North Oxford beg to report as follows:—In accordance with the provisions of the Public Health Act, the Local Board of Health for this township was organized and held its first meeting on February 4th, 1888. The Sanitary Inspector was instructed to make a tour of the township and post up notices requiring the inhabitants to place their premises in a sanitary condition, on or before the 15th of May. He was also instructed to visit all cheese-factories and slaughter-houses not less than three times during the year. There is now only one slaughter-house in use in this township, of which there was some complaints during the warm season of the year. The Inspector was directed to make frequent visits to the premises and see that they were kept thoroughly clean, and the offal removed within twelve hours after each killing, and not to allow hogs to be kept on the premises for the purpose of feeding the offal to. There has been no complaint of the cheese-factories or any other places in the township, and so far as our information extends of the sanitary condition of the township there is no reason to complain. The fertilizing works of the Ingersoll pork factory in this township has been closed all season.

There have been a few cases of diphtheria, typhoid, whooping cough, and one case of scarlatina, in all of which proper precautions were taken to prevent their spread.

ABRAHAM HILLSDON,
Secretary.

OXFORD, WEST.

Medical Health Officer's Report.

I have the honour to report that, with the exception of an epidemic of measles, the township of West Oxford has been fairly exempt from contagious diseases. The record shows a slight increase in the number of cases of malarial fever over last year, but of a mild type, with two cases of typhoid and one of diphtheria.

The only characteristic of the epidemic of measles worthy of mention was its extreme contagiousness, old and young becoming victims after the usual period of exposure and incubation. Out of 116 cases there was one death from acute phthisis, developed as a sequalae.

I would recommend that means be taken to make the people better acquainted with sanitary laws, both advisory and mandatory, by the publication on slips or tracts for easy distribution of portions of such law as relates to the conditions usually surrounding dwellings in the country and villages.

I believe ignorance of these conditions and of the importance of avoiding or remedying them, and of the use of simple disinfectants, is very general and requires that measures should be adopted to give a better knowledge of the points here indicated. I would further recommend the following changes to increase the efficiency of the Board of Health, viz: Stated times of meetings of the Board, more thorough inspection, and a salaried Medical Health Officer.

J. D. BROWN, M.D.,
Medical Health Officer.

PELHAM.

Secretary's Report.

Acting under resolution passed by the Board, the chairman-elect and secretary inserted notices in the local papers "Urging upon all physicians practising in the township, and all public school teachers engaged therein, as well as all parents and heads of families owning or occupying premises in the township, the pressing necessity of a strict observance and enforcement of the public health by-laws and sanitary regulations in force therein." Also, requesting "physicians and teachers to report to the officers of the Board with the utmost promptness every case of infectious or contagious disease, and to be particular that in every case cards of warning are posted up as required by law." Also, "urging persons who may be annoyed by the existence of putrid and decaying animal or vegetable matter to report existence of same to Board."

The secretary's memorandum book has the following entries of matters reported to him:—

One public school teacher reported a case of measles or scarlatina having occurred in the school. The child was kept at home till she recovered. The existence of dead animals unburied was complained of in three different parts of the township, and the Sanitary Inspector got them buried in each case by the owners. In one instance there were fourteen carcasses on one farm. As in former years Dr. Birdsall was about the only physician who took the trouble to report infectious diseases. His report included two cases of scarlet fever and three of diphtheria among children. No report as to death or recovery of these patients. The only other case reported was by Dr. Emmett—a scarlet fever case. The dwelling was placarded by the Sanitary Inspector who acted under instructions from the Medical Health Officer. This is the only case reported where card of warning was put up. I am personally cognizant of three or four cases of typhoid fever, but none of them were reported by the physicians in attendance.

J. C. CROW,
Secretary.

PERCY.

Medical Health Officer's Report.

I have to report seven cases of diphtheria and two cases of typhoid fever occurring in the township of Percy in the year 1888. The diphtheria cases were of a most malignant type, but by prompt isolation the disease was confined to the houses in which the first cases occurred. Outside of these cases of infectious diseases the sanitary condition of the township has been good in every respect.

J. M. CLEMENSON, M.D.,
Medical Health Officer.

PICKERING.

Secretary's Report.

The Local Board of Health for the municipality of the township of Pickering beg to present their annual report as follows:—

We are pleased to say that although the number of cases of infectisus diseases occurring in the municipality during the present year has been large, yet the number of deaths resulting therefrom has been small.

There have been thirty-two cases of diphtheria reported to the Board, of which four resulted fatally. Of scarlet fever nine cases were reported; none resulted fatally. Twelve cases of typhoid fever were reported and known to exist, in all of which cases the patients recovered, The Board feel pleased to be able to report that the rate of mortality has been very low. This result we attribute very much to the vigilance of our inspectors.

Our inspectors were called upon on three several occasions to visit localities where horses and cattle had died or been killed. In two of these instances the animals had been killed by trains on the Grand Trunk and Canadian Pacific Railways respectively, and the calls in all instances were made to have the animals buried.

DONALD K. BEATON,
Secretary.

PROTON.

Chairman's Report.

It is with pleasure that I inform you that the general health of our people has been good during the year. With one exception there has been no case of infectious or contagious disease brought to our notice. In this one case a family developed symptons of malarial typhoid on the return of a daughter who came home ill from Caledon township. Several of the family were prostrated with the disease, and one female died. Dr. McWilliams attended the family and reported a mild form of typhoid with little danger of spreading. He looked after the requisite sanitary precautions. No new cases have appeared in the vicinity.

In first week of July we visited and examined the three cheese factories in operation and found all in a creditable state, with suitable fittings and the premises clean and suitable for the manufacture of, good, wholesome cheese.

Each member of our Board having had supervision of a township division has earnestly striven to impress upon the people the necessity of having all premises, schools, etc., and the water for drinking purposes as pure as possible. Our people are gradually coming to understand and act in conjunction with the Board for the general health of the township.

SAMUEL ROGERS,
Chairman.

PUSLINCH.

Sanitary Inspector's Report.

I am happy in being able to state that the general health and sanitary conditions of this township are good. Diphtheria was somewhat prevalent in the month of December, 1887, and the early part of this year. Three cases were fatal. The disease was, in the first place, imported from Galt. The usual precautions were taken to prevent its spread. An epidemic of measles swept over the village of Morriston and vicinity in August and September. The school was closed for a time. No deaths occurred.

During the present year inspections were made in May and October of all villages, slaughter-houses and school properties, including wells and water-closets in connection with the latter. I was pleased to see that, with a few exceptions, our people had their premises well cleaned and, as far as I could see, in a good sanitary condition. All our school sections are likewise in a good condition. Slaughter-houses have been inspected at intervals and found to be generally satisfactory.

Early in May I visited all parties in this municipality known to be engaged in the sale of milk, inspected their cow-stables or byers, and made enquiries as to kinds of food, quality of water, etc.

ANDREW MUNRO,
Sanitary Inspector.

RALEIGH.

Medical Health Officer's Report.

In presenting to you my annual report as Medical Health Officer for the the township for the year 1888, I have to congratulate you on the sanitary condition of the municipality. During the present year your township has not been visited by any widespread cause of mortality.

In diseases of an infectious nature there has been quite a number of cases of measles, whooping cough, etc., but the rate of mortality has been very small; there have also been a few cases of diphtheria and typhoid fever, and in all cases the houses were properly placarded.

Several complaints were made about the unsanitary condition of the slaughter-house kept by Peter Cramb, in the village of Buckhorn. In company with a member of your Board I visited this slaughter-house and found it in an unsatisfactory condition; the slaughter-house and butcher shop were in one building, only a slight partition separating them. The slaughter-house was not kept in a fit condition by any means. In the yard adjoining the slaughter-house, right in the middle of the village, were a number of pigs kept, and the entrails were fed to them. In the yard was a large heap of heads, bones, etc., emitting a fearful stench; here also the refuse material was boiled and rendered. All this was going on within twelve feet of some of the neighbours' houses. I at once ordered the removal of the slaughter-house and the yard and buildings thoroughly cleaned up, which was done forthwith. I also had to order the removal of several pig-styes throughout the township, such being in too close proximity to the dwelling houses.

JOHN CHARLES BELL. M.D.,
Medical Health Officer

REACH.

Secretary's Report.

I have very much pleasure in being able to report that the sanitary condition of this municipality is extra good, and I attribute this in a great measure to the action of the Board of Health a few years ago, they having procured several hundred copies of the by-law and had one copy left by the assessor at every house and the provisions of said by-law explained to the inhabitants. With a very few exceptions a hearty co-operation of parties interested in complying with the wishes of the Local Board of Health was given. The result is that our municipality is free from any infectious disease this year. There have only been a few cases of typhoid fever reported during the year, and in every case proper provisions were made by the Board to keep it from spreading.

WILLIAM SPENCE,
Secretary.

Rochester.

Chairman's Report.

The Board has not experienced the least trouble in carrying out the provisions of the Public Health Act, as the residents of this township have at all times shown a cordial disposition to carry out whatever orders or suggestions the Board or the Medical Health Officer were called upon to make. The sanitary condition of the township and the health of the inhabitants are in a very good condition.

Diphtheria has broken out three times, but owing to the manner in which the cases were watched by our Medical Health Officer and the houses placarded, the disease was strictly confined to three houses; there were two deaths.

Later on our Medical Health Officer accidentally discovered a case of typhoid fever, and reported that two physicians had attended the patients, but, notwithstanding the strictness of the Act, failed to report the case. The patient recovered, and our Medical Health Officer attended to the proper disinfection of the house and the disease was checked there. The sentiments of the people are to assist the Board in anything regarding the welfare of the public health, but we regret to have to state that some of the physicians practising in our municipality often neglect their duty and should be prosecuted for their neglect, under the Act.

ANDRÉE DUROCHER,
Chairman.

Ryde.

Secretary's Report.

On behalf of the Local Board of Health for the Township of Ryde, District of Muskoka, I beg to report:—That the respective members of the Board were duly appointed by the Council. The first six months of the year passed without any need of action owing to the perfect freedom from disease which the Township enjoyed, but unfortunately the last six months have not been so. In July diphtheria broke out in two families, and before the Board were fully prepared to meet it, it had spread to three other families, all of whom were connected by marriage. At the request of the Board the Council immediately appointed a Sanitary Inspector, with whom alone communication was held with the houses containing the disease and the general public, thus shutting off any danger of infection to others. The result of this outbreak was the death of eight children. In September our Medical Officer inspected all the persons having had the disease, the premises where it had been, and gave us a clean bill of health. Early in October the disease again broke out in one family living in the vicinity of those who had suffered before, and the Board again caused the regulations to be put in force more rigidly than before, with the result that though there were three deaths in that family, it was confined to the one house. That house was stripped internally and most thoroughly disinfected. I am happy to say that there has been no return of the disease, and we are hoping that we have once again returned to our usual healthy condition. With this exception the health of the Township has been good, other deaths that have occurred having been from old age and infantile diseases.

J. G. TAYLOR,
Secretary.

SANDWICH, EAST.

Medical Health Officer's Report.

I beg leave to submit the following report of the sanitary condition of the Township for the year:—During the year thirteen cases of diphtheria and fourteen cases of scarlet fever occurred. Measles also of a severe type prevailed. In other respects the sanitary condition of the Township has been good, and is excellent at the present time. With regard to public vaccination, I would suggest putting off the affair until next spring, there being at the present time no epidemic in this vicinity, and consequently no urgent necessity exists for carrying out the orders of the Provincial Board. In all cases of contagious diseases the requirements of the law have been fulfilled to the letter—isolation and disinfection.

H. R. CASGRAIN, M.D.,
Medical Health Officer.

SARAWAK.

Chairman's Report.

The Board regret to state that typhoid fever has been prevalent most of the summer, no less than fifteen cases in and around Brooke Village having been reported by your Inspector. There have been two deaths. No report having been made by the doctors attending, your Board cannot say with certainty whether all these cases were typhoid or not. With the exception of the above, the sanitary condition of the Township has been fairly good. The Board, as usual, has had trouble with the slaughter-houses, but steps were taken and means used to put a stop to the nuisance. The proprietors were summoned to appear before a Magisterial Court to hear and answer complaints laid against them. The matter was settled by mutual agreement, the proprietors paying expenses incurred. Since then no complaints have been made.

The Board has had three meetings this year, mainly in connection with the slaughter-houses. Your Inspector has been diligent in the discharge of his duties.

I have pleasure in stating that your Medical Health Officer, Dr. O. E. Barnhart, continues as usual indefatigable and attentive in discharge of the duties devolving on him.

A practice exists which is very prevalent and injurious to public health—no doubt kindly intended—of persons crowding into a house where sickness occurs. Much caution should be used in this matter, not only in regard to the person affected, but in view of the great danger of contagious diseases being spread in the community.

Your Board urge on School Trustees the absolute necessity of keeping school privies in a perfect sanitary condition; on inspection some of them were found to be in a most disgraceful state.

WILLIAM ROY,
Chairman.

SARNIA.

Medical Health Officer's Report.

I have the honour to submit my report for the year 1888:—

There has been comparatively little sickness of any kind in the Township and great freedom from infectious disease during the year. In the month of November scarlet fever made its appearance in a family at Cole's Corners, on the second concession, and, I regret to report, proved fatal in one case. I have not yet been able to trace the contagion to its source, but by strict quarantine and thorough disinfection the disease was confined to the family where it first appeared.

I casually learned that two or more mild cases of diphtheria existed in School Section No. 5 in the month of November, but were not reported to the Board of Health, an omission or neglect which I trust shall not again occur under similar circumstances in the township.

On the appearance of a number of cases of smallpox in the Town of Sarnia vaccination was largely resorted to by the inhabitants of the township, and section 15 of the Act respecting vaccination was proclaimed in force by the Reeve, as urged by the Provincial Board of Health, with a degree of success as shown by the detailed statement which I have already furnished to the Local Board of Health.

I would urge respectfully upon the Trustees of the different School Sections in the township to continuously require that all children before being permitted to attend the schools shall produce satisfactory evidence of successful vaccination, as well for the protection of the public as to draw the attention of parents to the importance of the subject.

The practice of hauling refuse from the Town of Sarnia and depositing it in open spaces referred to in my last report has not yet been altogether discontinued. No complaints have reached me during the year regarding the slaughter-houses or the fisheries on the River St. Clair, referred to also in my last report. I therefore infer that the unpleasantness formerly complained of has been abated, due I believe to the efficient oversight of the Sanitary Inspector, Mr. Copland.

The dairymen and vendors of milk have taken out their licenses, and are willing to comply with the very reasonable conditions imposed therein by the Board of Health.

A. MACLEAN, M.D.,
Medical Health Officer.

SCOTT.

Medical Health Officer's Report.

While bringing to your notice the work of the past year, I feel in the first place that we may congratulate ourselves that we have kept our skirts clear of the terrible disease of smallpox which has been almost in our midst, and I feel certain that this has been due to the careful vigilance exercised by your Board. Had the township been without the Board of Health, as in past years, no doubt we would have suffered greatly from the scourge. I might say in this connection that public opinion in this township has changed very much in its attitude towards your Board. As an illustration: Two years ago when vaccination was urged upon them, many of the people looked upon it as a needless expense. This year, however, the same people who so strongly opposed it then have been wishing for such a chance as was given them. Now that the people are beginning to appreciate our work, we may reasonably expect in a short time the health standard to reach a high degree in this township.

I must complain here of the actions of medical men attending cases of contagious diseases in this township not reporting to our Board at once the existence of said diseases. When discovering the nature of the case it would help materially to prevent its spread if the Board had a knowledge of it, but in many cases the Board does not become aware of such disease until it is spreading rapidly. If we knew of first cases we could adopt proper steps to have them scientifically attended to, and thus check them at once. I must urge this matter particularly, and suggest that delinquents be legally proceeded against. We have had sixteen or eighteen cases of typhoid fever this year, and a committee having been appointed to investigate the cause duly reported to your Board. The report was printed and distributed through the township. There have been no cases of scarlet fever or diphtheria. In conclusion, I trust that the good work which has been begun will be carried out, and the township maintain its high reputation for the good sanitary condition which it has lately enjoyed.

D. CAMPBELL, M.D.,
Medical Health Officer.

SENECA.

Medical Health Officer's Report.

I have the honour to make my final report for the year 1888, and to say that the sanitary condition of this township for the past year has been exceptionally good. There have been no epidemics of any kind, and the rate of mortality has been very low. Thirteen deaths from all causes, old age included, is the number reported to the township registrar up to date. No diphtheria, scarlet fever or measles have been reported ; neither has any breach of the Public Health Act been brought to my notice.

ROBT. H. DAVIS, M.D.,
Medical Health Officer.

SOUTHWOLD.

Secretary's Report.

I have the honour to make the fourth annual report, and in doing so beg leave to state that again this municipality has been highly favoured in the last year, only one case of infectious disease having been reported, that of typhoid fever, which the patient contracted while visiting in the town of Sarnia. Cheese-factories, slaughter-houses, school houses and premises were all inspected in the month of May last, and upon the whole were found improved.

Sanitary improvements in slaughter-houses were strictly enforced. There were two complaints made to the Board of existing nuisances, which were speedily removed. The residents of this municipality are much opposed to compulsory vaccination, on account of vaccine used some two years ago having had a bad effect, so much so that some who were vaccinated came near losing their lives. One young man died, and his death was partly laid to bad vaccine. Others had fearful arms that I saw myself, and in many instances about as bad as the real. The sanitary condition of this municipality is steadily advancing ; the people are becoming educated in sanitary matters.

M. CAMPBELL,
Secretary.

STAMFORD.

Medical Health Officer's Report.

The past year has been entirely exempt from any epidemic, and has been a most remarkably healthy one, having only had eight cases of diphtheria, which were of a very mild character, and one case of measles.

After the attention of the Board of Health had been drawn to the necessity of issuing licenses, by the Secretary of the Provincial Board of Health, to milk vendors, six being all there were in the township, they were notified of the same. Only one dairyman, however, applied for and received such license.

At a meeting of the Township Council, at the time of the smallpox scare in Buffalo, a public vaccinator was appointed by that body. A proclamation was issued by the reeve; a notice was ordered to appear weekly in the county paper, and posters were scattered through the township to the effect, that "all persons applying therefor would be vaccinated free of charge; those neglecting to do so, or of shewing a certificate of having had it done within seven years, would be liable to the penalties laid down in the Health Act." So far, only about one hundred and forty have been vaccinated. People seem to have a great repugnance to the operation.

I have been informed by the Inspector that the slaughter-houses are kept in as cleanly a condition as possible, and that the cow byres were in a proper state.

Believe the township to be in an excellent sanitary condition in all respects.

JOHN M. DEE, M.D.,
Medical Health Officer.

STEPHEN.

Secretary's Report.

During the forepart of the year there were a few cases of diphtheria, and later on some cases of scarlet fever. Of late there were quite a number of cases of typhoid fever, some terminating fatally. The usual disinfectants were employed by the doctors, and our Sanitary Inspector was directed to visit the locality, which he did, and insisted on his instructions being carried out, which resulted in the disease being arrested in that locality. In one family there were six down with the disease, and although it is very bad around us, this locality has had but comparatively few cases.

Our Medical Health Officer some time ago moved away; we have not appointed another yet.

The doctors have been pretty punctual in giving notice of diseases, and I have attended to putting up cards.

C. PROTTY,
Secretary.

STRONG.

Secretary's Report.

The Board of Health for the township of Strong beg leave to report for 1888 as follows:—At the first meeting in the year Chas. A. Toole, M.D. was appointed Medical Health Officer, and Daniel Grummett Sanitary Inspector. As the population is not very dense, we have been comparatively free from contagious or infectious diseases. One or two cases of typhoid fever have occurred, but every precaution was taken by the Medical Health Officer to confine the disease, and was successful in preventing it spreading. The Sanitary Inspector has been alive to his duties in attending promptly to the removal of anything that might be detrimental to the public health, and altogether the sanitary condition of the township has been and is now very good.

JOHN CARTER,
Secretary.

SULLIVAN.

Medical Health Officer's Report.

I beg to present my first annual report in accordance with the provisions of the Public Health Act of 1884, and in doing so it gives me pleasure to be able to state that during the past year our municipality has been exceptionally free from cases of infectious disease. It is indeed gratifying that, unlike a few years ago when so many deaths occurred from an epidemic of diphtheria in this township, not a single case of this disease has been reported to your Board. Only one case of typhoid fever was reported, and this one happily recovered.

Cases of communicable skin disease amongst the children attending the public schools have been quite numerous, but by isolating those affected and giving them proper treatment, the number of cases are rapidly diminishing. I would respectfully call your attention to the fact that but very few of the children in this municipality have been vaccinated, and as smallpox has lately been in Toronto and vicinity, I would deem it wise to encourage parents to have their children vaccinated, and thus secure comparative immunity from one of the most loathsome of diseases.

GEO. J. DICKISON, M.D.,
Medical Health Officer.

SUNNIDALE.

Chairman's Report.

The Local Board of Health, Medical Health Officer and Sanitary Inspector for this township were duly appointed at the first meeting of the council for 1888.

In making our report we feel thankful in informing your honorable Board that this division has been exempt from any outbreak of dangerous diseases for the past year; no smallpox, diphtheria or typhoid, and the deaths have been of the ordinary class occurring in a very healthy community.

Our Medical Health Officer has no report to make.

WILLIAM SWITZER,
Chairman.

SYDENHAM.

Medical Health Officer's Report.

In presenting to the notice of this Board the sanitary condition of the township for the past year, I would first refer to two cases of diphtheria which occurred last January. One of the cases was near Woodford, and had been ill for some days. On examining his throat during my first visit to him I found considerable tumifaction and membraneous deposit, especially over the tonsils and even extending into the nasal cavities. I applied the remedies but the boy died from strangulation two days after. This case could, I think, be traced as coming from similar cases in Galt. The other case was in Annan, but I could not trace its source; this one recovered after considerable trouble. In both cases disinfectants were freely used, and the cases did not spread, although about the same time as the one in Annan, there were several cases of very severe sore throats around there.

The next disease of an epidemic nature coming under our notice was several cases of measles, but being of a mild type required very little treatment; all of them recovered

In August there came under my care two cases of bilious remittent fever which lingered on for two or three weeks, and both finally recovered without going into the typhoid form.

Those were the last cases worthy of observation, and at present as far as is known to me the township is free from any disease either of an epidemic or endemic nature worthy of consideration.

A. C. SLOANE, M.B.,
Medical Health Officer.

THEDFORD.

Secretary's Report.

During the year the Board has held five meetings. * Our Sanitary Inspector, I believe, has regularly transmitted to the Provincial Board the returns (monthly) of all cases furnished him by our M.D.'s, from which you will see that during the months of February, March and April there were several cases of scarlatina and fever—three of the former fatal, and a few cases of the latter up to November. From June to September a case or two of whooping cough, cholera infantum and diarrhœa, and one case of cholera morbus.

I believe everything statutary has been duly attended to.

During the first half of May some 120 notices were served upon parties here to attend to their wells, privies, manure heaps, etc., which had been reported by our Sanitary Inspector. Subsequently all these places were again inspected and reported as being satisfactory. Recently some new arrivals had commenced digging privy pits too near their dwellings and wells, and have been warned in time to correct their mistakes.

For a year or two the village has suffered to exist a nuisance from the refuse of a cider mill just outside our limits on the north, lying in a mass and fermentation thereby producing a bad smell, which our inspector promptly looked after ; otherwise the public school would have had to close.

We are no longer troubled with badly kept slaughter-houses, unburied animals and other former nuisances.

MARTIN WATTSON,
Secretary.

THOROLD.

Medical Health Officer's Report.

In accordance with the provisions of the Ontario Health Act, I beg leave to submit my second annual report for the township of Thorold.

In connection therewith I would beg leave to say that the past year with us has been an eventful one in sanitary matters. The slaughter-houses and other institutions of a similar nature situate in our municipality have received the necessary share of attention, and I am pleased to be able to state that our sanitary condition is excellent.

We had the honor of a visit from Dr. Lehman, who made the request that our Board take immediate steps to have a thorough system of vaccination put in force and carried out.

The matter was duly laid before the Board and action taken thereon. A resolution was passed by the Board requesting the reeve to issue a proclamation declaring the Act relating to compulsory vaccination to be in force ; but before the reeve had taken action in the matter, the Board again met and rescinded their action of the previous meeting, and referred the question of vaccination to the incoming Board for 1889, when I hope the matter will receive prompt attention, although I regret that action was not taken at once.

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*We have not received any disease reports from the Sanitary Inspector. There must be a mistake somewhere. [ED. REPORTS.]

H. PARK, M.D.,
Medical Health Officer.

TUCKERSMITH.

Secretary's Report.

The Local Board of Health for the Township of Tuckersmith has the honor to report as follows:

That during the year no information of any nuisance or unsanitary condition within the jurisdiction of this Board of Health has been given, nor any complaint made to any of its members. This Board reports with pleasure the manifestly improved disposition of the people to submit to all necessary regulations, and to assist in establishing better sanitary conditions.

Not a single case of any of the malignant diseases mentioned in section 77 of the Public Health Act, has come to the knowledge of the Board; and it is believed that not a single case exists or has existed during the year in this division, although some of these diseases visited with considerable virulence some of the neighbouring municipalities.

We do not claim that the happy state of affairs is directly attributable to the labors of this Board, but rather to the good sense of the people who read, and, what is more to the purpose, receive much more than formerly of the doctrines and philosophy of the laws of health. We commend those in authority for their endeavor to keep before the minds of the people the close connection that exists between a people's health and a people's care and cleanliness.

SAMUEL SMILLIE,
Secretary.

TURNBERRY.

Medical Health Officer's Report.

In compliance with "The Public Health Act," I have the honour to submit to you the following report of the Township of Turnberry for the year 1888:

During that period there has been no epidemic of any infectious or contagious diseases, no cases of any zymotic disease having been reported to me during the year by any of the medical men who practice in the township. I think I may safely say that the rate of mortality has been less than during either of the two preceding years; and the general sanitary condition of the municipality will compare quite favourably with that of any other rural section of the Province. The only case requiring a special medical inspection was that of an old wooden structure—for years used as an hotel—situated in the town plot of Wingham, in which there were said to have been several cases of typhoid fever. Mr. Lammont, the inspector, and myself visited the premises last February where we found one severe case of typhoid fever. There was every evidence of a great deal of filth and dirt about the place; a leaking roof and very much rotting vegetable matter in the shape of decaying flooring, sills, etc. Foul smells and contaminated air prevailed in every room. We reported the place totally unfit for habitation. While there is much cause for gratitude that the general health of the township has been so good during the year, yet I am satisfied that very much may be done to improve the sanitary condition of the municipality. There is great danger of disease germs being propagated through carelessness in the management of cheese factories, creameries, piggeries and slaughter houses. These establishments need to be closely watched, and nothing but thorough cleanliness and the free use of the most potent disinfectants will secure the best sanitation in such places.

W. B. FOWLER, M.D.,
Medical Health Officer.

USBORNE.

Medical Health Officer's Report.

We have reason to congratulate ourselves that the health of our district has been so good during the past year.

The only epidemic which became at all general was measles. This disease spread from school section to school section and from house to house during the spring months; but, notwithstanding its prevalence, it caused not a single death.

In the event of another outbreak we should be more on guard, and isolate affected families; for contrary to the general public opinion, it is not the harmless disease it is thought to be. It has proved in many cases to be the exciting cause of very serious lung trouble.

Scarlet fever was introduced into our municipality, in the month of September, by a gentleman who had been camping at Grand Bend. It was carried to his sisters and from there to the township of Logan, when unfortunately a child fell a victim to the disease. Had proper sanitary precautions been observed the disease might have been confined to the banks of Lake Huron.

Typhoid fever made its appearance in three houses during the fall months, and in each claimed a victim. One case was brought from a neighbouring municipality contrary to law. We should endeavour to prevent such a recurrence.

We have had no cases of diphtheria this year.

It would be very much in the interests of the public health, if all medical men would comply with the provisions of the Health Act and notify the Medical Health Officer of such cases of contagious and infectious disease as they may be called upon to attend.

The welfare of the community would be greatly advanced if all children in the Public Schools not having a good vaccine mark, were vaccinated at the expense of the municipality.

The Sanitary Inspector performed his work carefully, and from his reports I am led to believe a great improvement has taken place in the condition of the school-houses and their surroundings.

It has been urged by the central authorities (and, I think, with very great reason), that a stricter supervision be kept over slaughter-houses with regard to the cleanliness of such places, the disposal of offal and the slaughtering of diseased cattle.

Hoping that we may still increase our endeavours to promote the health of the community.

W. IRVING, M.D.,
Medical Health Officer.

VAUGHAN.

Medical Health Officer's Report.

The sanitary condition of the township is very good, there having been no epidemics of any kind. Farmers and others have shown much more care in regard to their houses and outbuildings. Some isolated cases of typhoid this fall over most of the township. All the precautions were used to remove cause and prevent spread. At the present time the general health of the township is good.

ROWLAND B. ORR, M. D.,
Medical Health Officer.

WAINFLEET.

Medical Health Officer's Report.

With the exception of whooping-cough in the western part of the district, the township is free of any epidemic disease. The whooping-cough is of a mild nature and as yet unattended by medical skill.

During the past year there have been seven cases of diphtheria, four of scarlatina and three of typhoid fever, but no deaths from the same. In each instance the precautions usually adopted were enforced and the disease confined to those primarily attacked.

This year I met with no unwillingness on the part of the people to having their houses placarded when necessary, and last year less than the year before. They agree that it is desirable and for the public good. A fact that makes the duties of a Medical Health Officer not unpleasant to perform.

On July 31st our Board convened, having been communicated with by the Secretary of the Provincial Board. This was our first meeting since being organized, and the principal subject discussed was the advisability of vaccinating the pupils of the thirteen schools in the township. It was decided to have it done owing to the likelihood of smallpox reaching here. As soon as the schools opened after vacation each one was visited, and every pupil present who did not show marks from vaccination two years ago, was then vaccinated; but strange to say that, although the virus was obtained direct from the Ontario Vaccine Farm at Palmerston and used before it was a week old, a very small percentage of them "took." A large number of them have been revaccinated, but with poor success. Since the weather has become cooler the virus acts more efficiently, and those vaccinated during the last two weeks have nearly all taken.

There has been no sanitary inspection of the township made yet. The members of the Board seem to think they know there is no use of it, as they are around so much and can see nothing wrong. In fact our township is well drained, not over populated and usually very healthy.

W. B. HOPKINS, M.D.,
Medical Health Officer.

WALLACE.

Medical Health Officer's Report.

In compliance with the requirements of the Public Health Act, I beg leave to submit my annual report:

There have not been any cases of contagious or infectious diseases reported to me by any practitioner during the year.

To my own knowledge there was only one case of diphtheria in the township during the year.

The general health of the inhabitants during the year past has been good.

I have pleasure in reporting the absence of nuisances of any kind.

Vaccination has not been performed in any case so far as I am aware, and I would beg leave to draw the attention of the Board to the necessity of a more general attention to regular vaccination, especially in view of the fact of smallpox having prevailed in some localities during the year.

JOHN STANDISH, M.D.,
Medical Health Officer.

WATERLOO.

Sanitary Inspector's Report.

In accordance with instructions received from the Board at the first meeting held this year, I inspected the premises, dairying utensils, stables and cows of all dairymen and milk vendors within this municipality, and I beg to report that I found their premises all in a good sanitary condition, it being necessary in only one or two instances to make any suggestions where the sanitary condition of the surroundings might be improved. The cows are all well-cared for and fed mostly on farm produce. In a few instances during the winter months brewers' grains were fed along with the ordinary food of the farm. Dairymen who had used the brewers' grains all agreed that they increased the quantity of the milk, but none believed that they improved it in quality.

The cows were all in a thriving, healthy condition and free from tuberculous or any contagious or infectious disease. The methods of keeping, cooling and delivering the milk were all that could be desired. In one instance the cows were fed both summer and winter in the stables, and judging by their appearance and the quantity of milk which they gave, it is the most profitable way of feeding, The owner warms the drinking water for his cows in winter, and feeds only farm produce. All his premises are kept very clean and tidy. I found little or no objection to the means the Board has adopted for making the inspection. I also inspected the various slaughter-houses in the municipality at the same time, and am sorry that I cannot report them all to have been in a sanitary condition at the time I inspected them. Some of them were in a first-class condition, but in others the refuse was allowed to accumulate too long, or the hogs that consumed it were kept too filthy. The owners always cleaned up their premises when requested to do so, but sometimes forgot to keep them clean afterwards.

I have had no complaints of any other premises being in an unsanitary condition, and have had no infectious or contagious diseases to deal with.

WILLIAM COWAN, V.S.,
Inspector.

WAWANOSH, EAST.

Medical Health Officer's Report.

I have the honour to report, as Medical Health Officer for the Township of East Wawanosh, that this township has been singularly exempt from endemic, epidemic or contagious diseases during the past year. That no difficulties have arisen under the administration of the Public Health Act, and that the inhabitants, even as regards the incursions of diseases of a more preventable type, have been highly favoured during the year 1888.

WILLIAM SLOAN, M.D,,
Medical Health Officer.

WELLESLEY.

Medical Health Officer's Report.

In conformity with the Public Health Act of 1884, and amendment thereto, I beg to submit my annual report as follows :—

During the year the Board of Health held four meetings, at each of which business of a more or less important nature was transacted. Though the state of the public health showed no emergency demanding exceptional activity on the part of the Board, there have, from time to time, been questions arising requiring its attention. Several inspections were made, mostly in response to complaints, and in general the injunctions to abate nuisances and correct insanitary conditions were cheerfully complied with ; yet I find that, as in other matters of public interest, there are a few so indifferent to the general weal that it would be in the interest of public health to give them an awakening in the shape of prosecution. In my casual rounds I have made it a point to inspect the wells at several school houses, and have found many of them not up to the mark, either as to purity of water or the means of preserving it pure, and I think trustees should be admonished to pay more attention to the subject. The resolution passed at an early meeting this year and reconsidered at a later one, regarding the institution of a general vaccination, has not yet borne fruit for a very sufficient, though not very satisfactory, reason, that the Board has not adequate funds at its command.

Of diseases arising from insanitary conditions, and of contagious or infectious diseases themselves, we have heard comparatively little during the year, though from Linwood and Hawksville a few cases of diphtheria and typho-malarial fever have been reported, in all of which, I am satisfied, due precautionary measures were employed and with satisfactory results. In the main, however, I am pleased to be able to congratulate you on the favouable comparison the present year makes with former years. There is not now any contagious or epidemic disease existent in the jurisdiction of this Board so far as I can ascertain. I cannot close this report without referring in favourable terms to the cheerful compliance of the medical practitioners in observiug the rule requiring them to report contagious cases in their practice.

WM. MORTON, M.D.,
Medical Health Officer.

WESTMINSTER.

Chairman's Report.

In presenting the annual report of the Local Board of the Township of Westminster, I beg to state that this township has been very free from epidemic disease during the past year, wonderfully so considering that London South, which is included in this township, has 3,000 inhabitants in a comparatively small space, and is without any regular system of either sewers or waterworks.

This summer we employed an active constable as Deputy Sanitary Inspector, and made a thorough inspection of all the premises in London South, with the object of putting the water closets especially in as good a state as possible, as we had received many complaints concerning them. We feel that it is impossible to provide an efficient remedy as long as a populous neighbourhood use only privy pits for the disposal of all their sewage. But we believe we effected a great improvement, as the people recognized the necessity of the inspection and generally obeyed orders as to the remedies required.

There were more deaths than usual this year, principally from diseases of the respiratory organs in the first quarter of the year. Our township council has willingly paid whatever was required for the expenses of the Board.

J. T. COUGHLIN,
Chairman.

WHITBY, EAST.

Secretary's Report.

The Board has, during the year, investigated all complaints laid before it, but this being a rural municipality containing no large villages, the cases of nuisances claiming inquiry have not been numerous.

While there have been a good many cases of contagious and infectious diseases such as typhoid fever, diphtheria, etc., they have in every instance been of an isolated character and have never approached anything like an epidemic.

We find the people willing to co-operate with the Board whenever cause of action was pointed out to them, compulsion being seldom or ever resorted to. Typhoid fever of a mild type has been more prevalent than formerly.

WM. PURVES,
Secretary.

WHITCHURCH.

Chairman's Report.

We feel thankful that infectious diseases have not made their appearance in the Township of Whitchurch to any extent during the present year.

It is true that we have had isolated cases of typhoid and scarlet fever, and some cases of diphtheria, but on enquiry we learned that every precaution to prevent the spreading of said diseases were taken by those in attendance.

On account of the dreaded disease, smallpox, having made its appearance in the Village of Stouffville and the Township of North Gwillimbury, the Chairman of the Board of Health for the Township of Whitchurch called the Board together on the 2nd day of November, and after due consideration a resolution was passed appointing a committee to take immediate action in case it made its appearance within our limits; and, also, if they considered it advisable, to ask the council to order general vaccination. Our Medical Health Officers have not been required to take any action in their official capacity during the year.

CHAS. J. BRODIE,
Chairman.

WILLIAMSBURGH.

Secretary's Report.

The Local Board of Health of the Township of Williamsburg in submitting their report for the year 1888 to the Provincial Board of Health, take much pleasure in stating that their duties have been quite nominal. The sanitary condition of the township appears to have been good, and the general health unexceptional. The Board have had no knowledge of the presence of any contagious or infectious disease of a malignant character. There has been no appointment of a Medical Health Officer made, because there did not appear to be any necessity for such appointment.

G. C. TRACY,
Secretary.

WILLOUGHBY.

Chairman's Report.

It is very gratifying to me, as Chairman of your Local Board of Health, to be able to report so favourably on the sanitary condition of the municipality.

In the earlier portion of the year some complaints were made in reference to a slaughter-house in the north-western part of the township, and the Sanitary Inspector was instructed to attend to it, which has been done with beneficial results.

There have been a few cases of diphtheria with one death, but I am pleased to say the sanitary condition of the township has seldom been more satisfactory than at present.

GEORGE WENNER,
Chairman.

WILMOT.

Medical Health Officer's Report.

In submitting to you the annual report on the sanitary condition and health of the township, it affords me much pleasure to be able to state that we have been free from any serious outbreak of contagious or epidemic diseases, and those that have occurred have been of a mild type. Several cases of typhoid fever have been reported, but no deaths have occurred from it; and several of diphtheria, with only one death. In the early months of the year we had an epidemic of measles, and a fair estimate must have furnished 100 cases. Out of this large number but one death is reported. Cases of bronchitis among children were reported, although no note was made by the physicians as to whether the measles predisposed to the bronchitis; it is presumable that such was the case.

It is a matter of much satisfaction to note that the efforts of the Provincial and Local Boards of Health are being appreciated by the community, and that our citizens are becoming impressed with the importance of the sanitary arrangements and care in respect to wells, cisterns and privies, the disposal of garbage and manure heaps, the supervision of slaughter-houses, cheese-factories and schools, the attention to ventilation, heating and drainage in buildings, and to isolation and disinfection in cases of contagious diseases. I have to refer to one practice that is not receiving the attention it should in this township, and which is now recognized as a fruitful source of ill-health, viz., the storing of vegetables and roots in the cellars of dwelling houses, some of which is certain to decay and poison the surrounding atmosphere, which, rising into the living rooms, is breathed by the inmates to their detriment. A better plan, I believe, is to have an out cellar, or brick or concrete building detached from the house for this purpose, and this course is adopted in many parts of the Province.

W. R. NICOLS, M.D.,
Medical Health Officer.

WOOLWICH.

Medical Health Officer's Report.

My duties commenced very early in the year, having been called by the Trustees of School Section No. 3 to examine the school on January the 24th. On the 30th the first meeting of the Board took place at St. Jacobs. On February 7th one of our butcher's premises needed looking after, though the weather was still cold. On May the 7th the second Board of Health meeting was held at Winterbourne, at which I received instructions to issue the annual notices, and to have same posted up at all post-offices and schools. During the summer I visited all the school-houses in the township, and one on the townline; several of them had small matters which needed attending to, and at one the water was very bad. I had some trouble with one slaughter-house, and though it looked as if kept in good shape, the smell, even at a long distance, was not pleasant. The last meeting of the Board was at St. Jacobs on October 10th. The Board at this meeting gave permission for the starting of a glue factory in St. Jacobs, and also instructed me to put vaccination notices in five papers published in the county, which was done. Another meeting of the Board came near being held to settle a dispute between two parties as to the position of a stable, but the matter was arranged by the Chairman and Secretary to the satisfaction of both parties. No epidemics this year, and what is not so good, no vaccination. A few cases of diphtheria, and two deaths; a few of typhoid, and one death. The total deaths in township, thirty-four, which is not seven per thousand of population, is a very good showing. I would suggest that if the Medical Health Officers were allowed to bring in their reports nearer the end of the year they would be more complete.

W. J. PASMORE, M.D.,
Medical Health Officer.

YARMOUTH.

Secretary's Report.

I have the honour to submit the fourth annual report of the Local Board of Health of the township of Yarmouth.

The Board met four times during the year. They enforced regulations for keeping slaughter-houses in proper sanitary condition, and compelled the removal of a large deposit of apple pumice of a cider factory, which was considered unhealthy to the children attending a school adjoining.

No measures have been taken to put the provisions of regulation 8 of the smallpox regulations in force, the Medical Health Officer having no apprehension of danger.

K. W. McKAY,
Secretary.

YONGE, FRONT OF.

Chairman's Report.

We have had four complaints concerning the accumulation of filth detrimental to the public health. The Board took immediate action and had the same removed. There were six cases of diphtheria, of which five cases were fatal. Seven cases of scarlet fever one fatal.

We are pleased to report that the sanitary condition of the municipality so far as we know up to the present, is in a good condition.

The Board is also pleased to report that the public are fast learning to appreciate the benefits arising from the vigilance pursued and care taken by the Local Board of Health, and that in a very short time when their duties are more fully known, their efforts will be more fully endorsed.

VINCENT BUELL,
Chairman.

YORK.

Medical Health Officer's Report.

The year has been marked by an absence of epidemic diseases. While neighbouring municipalities have been suffering from the ravages of diphtheria, typhoid fever, scarlet fever and small-pox, we are in a condition to congratulate ourselves upon a comparative immunity from these diseases. To be sure we have had isolated cases of cantagious diseases, but not in sufficient numbers to designate them epidemic. What few cases have come under my notice have been easily traceable to their origin. The chief factors in their production have been the abominable privy-pit and the night soil nuisance.

In regard to the former I think such legislation should be demanded as to prevent its future use. It seems impossible to educate our rural population to the dangers of its use, and I am convinced that it will never be abolished without compulsory measures. It is time also we should recognize the danger which lurks in the use of night-soil as a fertilizer. Situated as we are contiguous to a large city where epidemics prevail throughout the year, the danger from this source is one of particular importance to us. The township of York should not allow itself to become a dumping-ground for the disease-laden sewage of the City.

I am sorry in conclusion to be forced to mention what I look upon as a reproach to the medical men in our jurisdiction,—that with one or two exceptions they have neglected to report the cases of contagious diseases which occur in their practices.

H. E. WEBSTER, M.D.,
Medical Health Officer.

YORK.

Secretary's Report.

Your Secretary, in compliance with sec. 24 of the Health Act, 1884, would respectfully report for the year 1888 as follows :—

(1) The Board was duly organized in the month of January; two Sanitary Inspectors were appointed, one for the eastern and one for the western portion of the township, Young Street being the dividing line; in the month of April a Medical Health Officer was appointed. During the year the Board held ten meetings, at each of which our Inspectors were present and gave a written or verbal report of the work done by them in their respective districts, and of the sanitary condition of the same.

(2) I am pleased to report that the sanitary condition of the township during the year has been very satisfactory to the Board; no epidemics or contagious diseases are known to have existed, with the exception of a few isolated cases of diphtheria among children. I would also state that only two cases of malarial fever have been reported or known to the Board during the year.

(3) Our proximity to the City of Toronto has imposed upon our Sanitary Inspectors and the members of the Local Board individually a very large amount of vigilance in order to prevent the transportation of night-soil and garbage into the township from the city, contrary to the rules and conditions of the Board.

(4) The inspecting of slaughter-houses and piggeries has taken up a considerable portion of the time of our Inspectors, but their work has been more pleasant than formerly owing to the fact that the powers vested in the Board are more generally known and recognized, and the residents of the municipality are becoming more alive to the benefits to be derived from the enforcement of sanitary laws, and as a rule meet readily any suggestions or willingly obey any orders which they receive from the Health Officers or members of the Board, for their own benefit and protection and the sanitary welfare of the community.

W. A. CLARKE,
Secretary.

ZONE.

Medical Health Officer's Report.

In making out this my annual report for the township of Zone for the present year, I may say that I think we have great cause to be thankful for the health and prosperity of the township. Since my last report there has been but one case of typhoid fever reported to me during the year, and that terminated favourably. None came under my personal observation; nither has there been any cases of scarlet fever, diphtheria or other contagious disease reported to me. I think I may safely say that the sanitary condition of the township of Zone is second to no other municipality in the County of Kent.

R. D. SWISHER, M.D.,
Medical Health Officer.

ZORRA, EAST.

Secretary's Report.

In reply to your circular I would state that the Sanitary Inspectors of the municipality have made a thorough examination of the school houses and yards, slaughter-houses and cheese factories, and with but two exceptions found everything in a good sanitary condition. One slaughter-house and one school yard were found not just right, but was, upon notice of Inspector, cleaned up at once. There has only been two cases of typhoid fever within the municipality this year so far. The Medical Health Officer states that he has no further report to make, as he has not been called upon during the year on any occasion.

D. W. McKAY,
Secretrry.

ALPHABETICAL INDEX.

A.

PAGE

Anthrax in Guelph District xxxvi

C.

Contagious diseases, outbreaks of........ viii

D.

Diphtheria in the Commanda and Dunchurch Settlements in Nipissing District—Reports of Drs. Hodgetts and Wade........ xxiii to xxxii

Diphtheria, outbreaks of .... xiv to xxxv

Diphtheria in the Districts of Parry Sound, Nipissing and Algoma, Report on—Dr. Lehmann. xviii

I.

Infectious diseases, notification of........ xxxviii

M.

Milk supplies, inspection and regulation of........ xliv

N.

Nuisances, abatement of........ xlv

R.

Report of the Secretary........ vii

Report of the Committee on School Hygiene lxxii

Report of the Committee *re* Diphtheria in the Frontier Townships in Northern Districts of Ontario xx

Report of Dr. Covernton on Quarantines lxxvi

Reports of Local Boards of Health in Ontario........ 3

CITIES.

	PAGE
Belleville	3
Brantford	4
Guelph........	6
Hamilton	8
Kingston........	10
London	11
Ottawa	13
St. Catharines........	16
St. Thomas	17
Toronto........	17

TOWNS.

PAGE
Barrie 22
Brockville 23
Chatham 24
Collingwood 25
Dundas 26
Galt 27
Kincardine 27
Lindsay 27
Meaford 29
Milton 30
Mt. Forest 30
Napanee 30
Niagara Falls 31
Orangeville 31

PAGE
Peterboro' 32
Picton 34
Pt. Arthur 35
Prescott 36
Preston 36
St. Mary's 37
Simcoe 38
Southampton 38
Strathroy 38
Trenton 39
Whitby 40
Windsor 41
Wingham 42
Woodstock 42

VILLAGES.

Acton 43
Alvinston 43
Ancaster 44
Belle River 45
Brussels 45
Cardinal 45
Chesley 46
Chippawa 46
Dresden 46
Dundalk 46
Embro 47
Fergus 48
Glencoe 48
Milverton 49
Newcastle 49

Niagara Falls 50
Oil Springs 50
Point Edward 50
Port Elgin 50
Port Stanley 51
Port Colborne 51
Portsmouth 51
Seaforth 52
Springfield 52
Streetsville 52
Thamesville 53
Vienna 53
Waterdown 54
Weston 54
West Toronto Junction 54

TOWNSHIPS.

From page 55 to page 121.

S.

Sewerage systems, introduction of, in several places lv
Sewage, disposal of lxiv
Sewage of London Asylum, disposal of, Report on the plans by the Committee on Sewerage and Water Supplies lxvii
Smallpox, outbreaks of .... viii to xiv
Smallpox in and about Buffalo, Report on by Dr. Lehmann xi
Smallpox in Ontario during the year 1888 xiv

RETURN

To an Order of the Legislative Assembly, passed on the 4th day of February, 1889, for a Return shewing the amount paid out from the Municipal Funds, either by direct grants or remission of taxes, in each City, Town, Village or Rural Municipality in the Province of Ontario, during 1887 and 1888, for the relief of poor and indigent persons, but not including any sum paid for the support of a House of Industry or similar institution; the number of indigents a permanent charge upon any municipality in 1887 and 1888; and the number of such indigents who received temporary aid from municipal funds in 1887 and 1888.

J. M. GIBSON,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, March, 21st, 1889.

RETURN

To an Order dated March 4th, 1889, shewing the amount paid out from Municipal Funds, by direct grants or remission of taxes, in each City, Town, Village or Rural Municipality for the relief of poor and indigent persons, exclusive of sums paid for the support of a House of Industry or similar institution; the number of indigents a permanent charge, and the number who received temporary aid during the years 1887 and 1888.

Name of Municipality.	Amounts Paid for Relief of Indigent Persons.				1887.		1888.		Remarks.
	By direct payment, 1887.	By remission of taxes, 1887.	By direct payment, 1888.	By remission of taxes, 1888.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	
	$ c.	$ c.	$ c.	$ c.					
Cities:—									
Belleville									$1,300 yearly granted by the Hospital of "Home for the Friendless."
Brantford	1,974 81	40 55	1,675 92	110 12	41	65	37	56	
Guelph	1,780 13		1,586 73		3	182	3	203	
Hamilton	3,845 70		3,542 63		58		71		
Kingston	216 11	213 22	159 07	193 11					
London									
Ottawa	481 67	466 75	1,063 02	380 84		230		500	
St. Catharines									
St. Thomas	461 08	27 00	410 87						
Stratford									
Toronto	968 70	91 26	754 13	91 26				100	
Towns:—									
Almonte	109 62		135 70	7 98	3	4	3	3	
Amherstburg									
Aylmer	87 84		103 04	5 10					Number of indigents in town, about 10.
Barrie	793 92	13 00	667 55		10	20	8	16	
Berlin	30 48	4 00	98 83	7 00		6		11	
Blenheim	120 95		222 00		2	11	2	5	
Bothwell	226 95		140 37		6	6	6	6	
Bowmanville	701 71	40 50	750 28	45 00	11	4	12	4	
Brampton									
Brockville	1,106 83	251 00	1,368 95	261 00	19		29		

RETURN to an order dated March 4th, 1889, shewing amount paid out of Municipal Funds, etc.—*Continued.*

NAME OF MUNICIPALITY.	AMOUNTS PAID FOR RELIEF OF INDIGENT PERSONS.				1887.		1888.		REMARKS.
	By direct payment, 1887.	By remission of taxes, 1887.	By direct payment, 1888.	By remission of taxes, 1888.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	
	$ c.	$ c.	$ c.	$ c.					
Towns—*Continued*:—									
Chatham	*2,000 00	77 43	2,000 00	100 31	18	550	21	700	* Grant to "Ladies of the Home of the Friendless."
Clinton	182 71	36 00	283 58½	39 37½	4	11	5	12	
Cobourg	*355 00	44 00	*362 00	50 00	1	12	1	12	* Includes grant to "The Ladies and Benevolent Society."
Collingwood	....	....	....	....	....	....	....	....	
Cornwall	142 52	....	639 64	....	....	23	....	70	
Dresden	60 90	13 20	*136 32	8 80	....	9	....	8	* Includes $74.75 grant for medical treatment.
Dundas	400 00	20 80	400 00	28 80	....	2	....	2	
Durham	....	....	....	....	....	....	....	....	
Galt	53 60	7 00	55 75	25 00	....	16	....	14	
Goderich	536 05	115 50	651 09	73 85	4	33	4	31	
Harriston	21 38	....	30 81	....	....	12	....	12	
Ingersoll	453 33	158 82	576 85	212 22	*	*	*	*	* No record of number receiving aid.
Kincardine	213 61	32 16	104 01	39 80	1	3	1	3	
Lindsay	371 20	42 98	835 05	67 54	5	....	7	17	
Listowel	20 00	78 00	47 25	100 00	....	7	....	8	
Meaford	266 42	....	314 30	....	5	11	6	10	
Mitchell	86 38	7 50	206 05	....	2	....	3	....	
Milton	25 00	5 70	25 00	5 70	....	....	....	....	
Mount Forest	3 50	52 47	*35 00	57 02	....	....	....	....	* Includes grant to "Town Ladies' Relief Society."
Napanee	679 77	14 00	494 72	20 00	5	20	5	17	
Newmarket	....	....	39 50	....	....	....	....	2	
Niagara	18 00	....	....	....	6	6	....	....	
Niagara Falls	618 73	....	582 07	....	4	7	5	8	
Oakville	268 99	30 00	171 63	....	8	8	8	8	
Orangeville	126 91	....	208 97	....	....	....	....	....	
Orillia	243 38	53 00	327 00	116 54	....	5	....	5	
Oshawa	828 00	410 00	520 00	457 00	....	24	6	23	
Owen Sound	311 00	64 34	505 00	42 12	3	13	3	15	

Palmerston	......	......	......	......	......	......	......	......	
Parkhill	84 79	16 53	13 70	12 40	......	14	......	8	
Paris	289 70	9 00	429 43	10 80	3	8	3	10	
Pembroke	......	......	......	......	......	......	......	......	Indigents attended to by church societies.
Penetanguishene	134 50	5 84	75 75	......	......	10	......	7	
Perth	......	......	......	......	......	......	......	......	
Peterborough	1,657 18	138 04	1,786 49	230 27	......	76	......	83	
Petrolea	148 00	34 80	244 00	32 40	......	9	......	11	
Picton	843 00	......	1,076 00	......	11	5	11	5	
Port Arthur	......	......	......	......	......	......	......	......	
Port Hope	381 99	133 30	458 42	115 50	14	30	32	14	
Prescott	499 01	70 23	420 67	79 23	7	4	4	3	
Rat Portage'	133 60	......	91 90	38 23	......	6	......	5	
Ridgetown	174 15	27 75	96 10	21 70	1	35	......	22	
Sandwich	......	......	......	......	......	......	......	......	
Sarnia	903 00	......	945 00	......	12	10	14	7	
Seaforth	131 67	......	138 72	......	......	8	......	14	
Simcoe	531 65	48 35	441 35	44 50	7	20	6	18	
Smith's Falls	......	......	......	......	......	......	......	......	
St. Mary's	742 20	200 00	714 37	47 07	12	6	12	4	
Strathroy	159 41	59 91	122 97	52 12	......	......	......	......	
Thorold	393 90	......	348 63	3 17	3	......	5	......	
Tilsonburg	......	......	......	......	......	......	......	......	
Trenton	755 45	36 46	694 14	35 40	12	26	10	28	
Uxbridge	175 00	......	161 95	......	1	5	1	5	
Walkerton	155 71	17 22	350 33	27 81	2	6	2	7	
Waterloo	......	......	......	......	......	......	......	......	
Welland	207 09	......	214 99	......	......	9	......	10	
Whitby	417 49	17 20	513 10	4 00	8	12	7	9	
Windsor	2,012 02	......	2,453 17	18 00	17	......	17	*	* No record kept.
Wingham	207 26	18 50	100 68	18 00	......	24	......	24	
Woodstock	*758 67	136 59	*777 61	98 59	11	......	8	......	* Includes grant to Mayor for charitable disbursements.
Villages:—									
Acton	......	......	......	......	......	......	......	......	
Ailsa Craig	......	8 00	......	3 65	......	......	......	......	
Alexandria	13 50	2 43	13 00	......	......	2	......	3	
Alliston	33 70	......	46 93	......	......	4	......	7	
Alvinston	......	......	......	......	......	......	......	......	None.
Arkona	......	......	25	5 60	......	......	......	1	
Arnprior	1 50	......	5 00	......	......	2	......	1	
Arthur	......	......	......	......	......	......	......	......	
Ayr	*25 04	*1 40	......	......	......	......	......	......	* Paid for relief of a widow.
Ashburnham	47 33	......	105 90	6 52	......	5	......	7	
Aurora	......	......	......	......	......	......	......	......	
Bath	......	......	......	......	......	......	......	......	
Bayfield	......	......	......	......	......	......	......	......	
Beamsville	52 00	4 80	7 25	5 78	2	......	2	......	
Beaverton	33 07	4 19	72 40	6 80	......	2	......	5	
Beeton	......	......	......	......	......	......	......	......	Paid nothing.

Return to an order dated March 4th, 1889, shewing the amount paid out of the Municipal Funds, etc.—*Continued.*

Name of Municipality.	Amounts Paid for Relief of Indigent Persons.				1887.		1888.		Remarks.
	By direct payments, 1887.	By remission of taxes, 1887.	By direct payments, 1888.	By remission of taxes, 1888.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	
Villages—*Continued:*—	$ c.	$ c.	$ c.	$ c.					
Belle River	34 25	1 56	42 50		1	2	1	1	
Blyth		60 00		50 00	1	3	1	3	
Bobcaygeon									
Bolton	27 28		103 30		3	1	3	8	
Bracebridge			1 50					1	
Bradford									
Brighton	29 00		91 00		2	2		4	
Brussels	136 62	11 61	179 58	18 05	5	5	5	4	
Burlington	75 00		75 25		3	49	3	26	
Caledonia	5 00	6 75		2 82		2		1	
Campbellford									
Cannington	1 39		2 00			1		1	
Cardinal	27 37		31 25		1	12	1	18	
Carleton Place	10 23		6 30						
Cayuga									
Chesley	21 62		17 75			3		4	
Chippewa	43 60	7 30	52 20	8 45	3	65	3	81	
Clifford	3 55		16 25	2 70					
Colborne			8 00					2	
Deseronto	87 44	25 62	155 96	36 25		7		13	
Drayton									
Dunnville	294 80	6 37½	283 45	6 37½	3	*	3	*	* No record.
Elora	12 20	2 30	1 90	2 30		*		*	* No record.
Embro	5 00	11 60	33 00	10 20		2		2	
Erin	1 35	4 35	11 75	4 75		3		5	
Essex Centre	172 00	14 80	56 31				1	1	
Exeter	226 72	6 65	195 69	14 00	2	5	2	7	
Fenelon Falls	77 00		15 10			3 famil's		1	
Fergus	14 25	18 35	14 00	17 08		4		4	
Forest	100 71	5 25	94 16	5 20		5		6	
Fort Erie									
Gananoque	217 11	57 53	182 66	124 16		14		12	

Garden Island									Nothing.
Georgetown	65 53		81 22		1	8	1	5	
Glencoe	27 80		6 95			5		4	
Gravenhurst									
Grimsby	14 25	2 00	7 00	2 00					
Hastings	16 75		108 10			3		4	
Hawkesbury									
Hespeler									
Holland Landing									House of Industry in the County.
Iroquois	64 23		59 90			3		3	
Kemptville	48 35		58 17	17 54	2		2	6	
Kingsville									
Lakeville	*67 75		8 70			2		2	* $57.75 burial of young man; council claim on property.
Lanark	31 20		6 50			2		1	
Leamington									
L'Orignal									
London West									
Lucan									
Lucknow									
Madoc	20 00		15 00			1		2	
Markham									
Merrickville									
Merritton									
Midland	314 90	7 00	282 67		3	6	2	2	
Millbrook	41 07	11 99	37 00	24 41	1		1		
Milverton	42 00		1 25		1			2	
Morrisburg									
Newboro'									
Newburgh									
Newbury									
Newcastle	264 24	11 70	118 80	10 44	3		2		
New Hamburg	39 51		8 80			8	2	2	
Niagara Falls, South	101 56	23 00	40 85	16 00	1	9		7	
North Bay									
Norwich									
Norwood	71 00	15 86	45 00	23 39	2	6	1	7	
Oil Springs	25 50		20 00	6 00		3		2	
Omemee									
Paisley									
Parkdale									
Point Edward	37 75	7 15	*28 20	5 00		5		2	* $24 burial expenses.
Portsmouth		16 96		16 96				1	
Port Colborne						6		5	
Port Dalhousie		8 95	11 22					6	Collector's roll for 1888 not yet returned.
Port Dover	214 44	3 98	122 50	3 25	3	10	3	8	Refunded by county: $140.85 in 1887, $48.50 in 1888.
Port Elgin	48 34		22 25			4		3	
Port Perry									
Port Stanley									

RETURN to an order dated March 4th, 1889, shewing the amount paid out of the Municipal Funds, etc.—*Continued.*

NAME OF MUNICIPALITY.	AMOUNTS PAID FOR RELIEF OF INDIGENT PERSONS.				1887.		1888.		REMARKS.
	By direct payments, 1887.	By remission of taxes, 1887.	By direct payments, 1888.	By remission of taxes, 1888.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	
	$ c.	$ c.	$ c.	$ c.					
Villages—*Continued*:—									
Preston									
Renfrew	48 42		5 79	2 30		4		2	
Richmond	*15 00		*46 65			1		1	* In 1887, board for girl; 1888, railway fare.
Richmond Hill									
Sault Ste. Marie									
Shelburne				7 10				2	
Southampton	*33 62	5 25		7 00		1		2	* $17.32 funeral expenses.
Springfield	2 05		13 55						
Stayner	26 25	22 10	6 02	14 70		13		6	
Stirling	27 41	12 75	62 91	19 50	1	4		6	
Stouffville									No indigent persons.
Streetsville									
Tara									
Teeswater	24 00					1			
Thamesville	284 24	10 08	102 91	51 00	2		1	9	
Thedford	56 00	3 60	78 50	3 62	2	6	2	16	
Tiverton									
Tottenham									
Vienna	16 04	2 78		2 63		1			
Wallaceburg									
Wardsville									
Waterdown	77 00	80 00	94 67	25 18	2	5	1	6	
Waterford									
Watford	9 65		73 25			4		12	
Wellington	54 87		51 25			2		2	
Weston	11 40		55 30						
Wiarton	57 00				1	4			
Woodbridge									
Woodville			50 02					4	
Wyoming	85 49		81 55		1	3	1	2	
Wroxeter		1 50		1 50				1	

Townships:—									
Adelaide	12 75		10 00	1 50		1		1	
Adjala	112 50	4 31	161 97		5	2	7	5	
Admaston									
Adolphustown									
Albemarle									
Albion	160 00		282 80		2	3	2	5	
Aldborough	76 75	70 31	225 49	46 63		23		28	
Alfred	10 00		10 00			1		1	
Alice		6 00		10 96		4		6	
Alnwick	46 00		63 73		2		1		
Amabel	141 52	4 60	52 60	15 40	5	1	3	0	
Amaranth	27 00		15 00	7 91		3		1	
Ameliasburg	523 70		489 49		11		8		
Amherst Island									
Ancaster									
Anderson									
Anson and Hindon	6 09	5 79		2 30		1			
Arran	75 50	2 00	53 60	9 72	2	3	2	4	
Armour									
Artemesia	131 50	1 25	167 00	Nil.	2	5	3	6	
Arthur	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	$14 paid in 1888, funeral expenses indigent emigrant.
Ashfield	136 49	2 10	215 08	1 92		6		7	
Asphodel	88 64		57 00		1	3	1	2	
Assignack									
Athol	522 88	7 59	419 00	4 28	8	3	7	2	
Augusta	357 00	2 85	331 00		8	2	8	3	
Bagot and Blythfield	45 00	3 87	40 00			4		2	
Barrie		2 00	5 50	21 00				1	
Barton	385 41	4 87	359 89	4 11	1	19	1	22	
Bastard and Burgess									
Bathurst and Burgess, N									
Bayham									
Beckwith	14 00		52 00	10 13		1		4	
Bedford	46 50	11 35	73 00	5 10		2		1	
Belmont and Methven	104 00	2 25	71 00	2 46	3		2	1	
Bentinck	232 00	31 24	241 80	33 71	4	3	2	7	
Bertie	311 70		223 46			8		10	
Beverly	395 00		416 75			11		13	
Bexley	60 05		43 30			4		4	
Biddulph	7 65					3			
Billings		2 00			1				
Binbrook	75 00		60 94		2		1	1	
Blanford	113 55		64 00		3	3	2		
Blanchard	130 00		96 00		2	1			
Blenheim	379 77	4 55	433 58	3 32	5	8	5	13	
Bonfield									
Bosanquet	10 00		26 00			1		3	
Brant	291 15	3 40	295 50	3 10	6	3	6	4	
Brantford									

RETURN to an order dated March 4th, 1889, shewing the amount paid out of the Municipal Funds, etc.—*Continued.*

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	$ c.	$ c.	$ c.	$ c.					
Townships—*Continued.*									
Brighton	178 75	84 97	204 43	102 12	6	6	6	6	
Brock	385 45	...	475 50	...	9	7	10	6	
Bromley	15 35	...	2 50	...	...	1	...	1	
Brooke	...	...	...	...	...	...	...	...	
Brougham	...	...	...	...	...	...	...	...	
Bruce	...	...	...	...	...	...	...	...	
Bruce Mines	...	...	...	...	...	...	...	...	
Brudenell and Lynedock	31 00	3 07	20 00	...	2	3	1	1	
Brunel	10 00	...	...	...	...	1	...	...	
Bruton, Dudley and Dysart	...	...	...	...	...	...	...	...	
Burford	518 25	1 70	443 52	9 70	10	11	8	9	
Burleigh and Anstruther	10 00	54 19	20 00	209 97	...	1	...	1	
Burpee	...	...	...	...	...	...	...	...	
Caistor	29 00	...	6 00	...	...	1	...	...	
Caledon	153 57	...	268 45	...	3	10	4	11	
Caledonia	...	...	...	...	...	...	...	...	
Cambridge	73 00	...	71 90	36 38	...	8	...	14	
Camden	47 90	...	172 80	...	5	3	5	4	
Camden, E.	401 85	...	495 95	...	8	13	10	15	
Canborough	45 81	...	72 50	...	1	2	1	...	
Canonto, S.	...	...	...	...	...	...	...	...	
Carden and Dalton	5 00	35 79	10 00	3 15	...	5	...	1	
Cardiff	...	...	...	...	...	...	...	...	
Carlow and Mayo	41 25	...	...	...	...	...	...	...	
Carnarvon	...	...	...	...	...	...	...	...	
Carradoc	...	13 24	44 00	...	...	1	...	3	
Carrick	...	...	...	...	...	...	...	...	
Cartwright	172 00	...	226 00	...	5	1	5	...	
Cavan	197 55	...	222 75	...	3	1	3	1	
Cayuga, N.	43 00	...	48 50	...	1	...	1	...	
Cayuga, S.	...	...	...	...	...	...	...	...	None.
Chaffey	...	11 92	...	6 20	...	...	...	...	

Charlottenburg	85 60	4 87	45 50	15 30		8		5	
Charlotteville	150 79	17 63	237 19		5	4	4	7	
Chatham									
Chinguacousy	710 00	1 50	434 25			12		13	$200 paid in General Hospital, about [$100 in 1888.
Clarendon and Miller	10 00	6 10		4 25		1			
Clarke	870 13	1 56	836 95		15	4	14	4	
Clinton									None.
Cockburn Island			29 43					1	
Colborne	200 50		247 10	30 05	2	5	2	6	
Colchester, S.	120 00		156 50		1	8	2	6	
Colchester, N.	53 66		43 70	15 23		8		7	
Collingwood	156 50		239 62		3		3		
Cornwall	492 89		400 55		12	5	12	6	
Cramahe	410 06	2 25	395 18	2 25	8	6	6	5	
Crosby, N	105 15	11 13	143 03		2	2	2	5	
Crosby, S.	10 00	2 13	44 00	8 46		1		5	
Crowland	148 00		82 00		1		2	2	
Culross	121 45		131 00		2	7	2	3	
Cumberland		90 00				1			
Dalhousie and Sherbrooke, W.		22 89		12 74					
Darling	16 00		20 00			1		1	
Darlington	1,002 55	4 50	830 85	3 75	22	3	19	2	
Dawn	70 35	9 14	185 08	4 61	2	3	2	2	
Delaware	17 00	8 31		7 44		5		2	
Denbigh, Abinger and Ashby	10 00	2 44		4 50		2		1	
Derby	136 98		122 68		2		2		
Dereham	243 73		391 32			10		10	
Dorchester, N	46 40	6 61	57 60	6 58		11		14	
Dorchester, S.	94 53	1 20	52 00	1 25		4		3	
Douro	120 67	3 00	182 89	2 00	2	6	4	2	
Dover									
Downie	298 17	7 83	298 17	10 06	7	4	7	5	
Draper and Oakley	35 94			2 48		2		2	
Drummond	15 00	5 55	24 89	5 20		3		4	
Dumfries, N.									
Dumfries, S.	269 00		222 50		2	4	2	6	
Dummer	230 38		173 31	2 96	3		2	3	
Dunn									
Dunwich									
Easthope, N.	146 50		109 58			5		4	
Easthope, S.	15 50		42 25		1		1	1	
Eastnor	68 75	7 92	76 88	5 55	1	4	2	5	
Edwardsburg	422 56	53 27	551 42	31 62	6	9	6	9	
Egremont	180 00	17 84	202 75	19 93	5	1	5		
Ekfrid	23 53	30 54	37 65			7		4	
Elderslie	59 50		185 50			4		5	
Eldon	183 00	24 12	183 20	48 69	4	1	4	2	
Elizabethtown									
Ellice	110 00	26 00	75 00	48 30	5	2	4	5	
Elma	81 11		93 40		1	3	1	2	
Elmsley, N.									

RETURN to an order dated March 4th, 1889, shewing the amount paid out of the Municipal funds, etc.—*Continued.*

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	$ c.	$ c.	$ c.	$ c.					
Townships—*Continued.*									
Elmsley, S.	15 00		12 00			1		1	
Elzevir and Grimsthorpe	88 75		106 00		2	3	3	2	
Emily	97 31		100 70		1	3	1	3	
Enniskillen									
Ennismore									
Eramosa		1 84		2 00					
Erin	19 25	11 07	9 75	5 56		6		3	
Ernestown	377 71	29 97	404 20	50 30	6	2	6	2	
Escott, F.	157 79		226 97		3		3	2	
Esquesing	110 50	7 75	221 00			2		6	
Essa									
Etobicoke	98 05	2 40	112 60	2 60		11		6	
Euphemia									
Euphrasia									
Faraday and Dungannon									
Fenelon	139 50	3 63	202 70	8 72	6		7		
Ferris									
Finch	186 23		212 50	5•97	4	1	4		
Fitzroy									
Flamboro, E.	272 12	36 52	320 15		4	2	5		
Flamboro, W.	411 10		398 50	1 81	8	2	9	2	
Flos									
Foley	10 00	23 54		16 15		5		3	
Fredericksburg, N.	55 80	4 92	54 20	2 90		2		2	
Fredericksburg, S	264 09		267 34		3	1	3	1	
Fullarton									
Gainsborough	27 50		2 25			5		1	
Galway and Cavendish		3 30		3 30					
Garafraxa, E			30 00					2	
Garafraxa, W									None.
Georgina	28 80		7 00			4		1	
Glenmorgan		10 56				3		2	

Glanford	191 08	....	155 95	....	....	5	....	3	
Glenelg	130 15	32 24	106 50	18 46	2	11	2	6	
Gloucester	4 00	....	10 00	....	....	1	....	2	
Goderich	282 75	....	299 75	....	4	2	4	3	
Gordon and Manitoulin	....	....	....	....	....	....	....	....	
Gosfield	171 85	1 14	14 10	2 27	....	5	....	3	
Goulburn	10 00	....	10 00	39 28	....	1	....	1	
Gower, N	....	....	....	....	....	....	....	....	
Gower, S	41 00	....	39 50	....	....	3	....	2	
Grantham	....	....	....	....	....	....	....	....	Home for destitute people.
Grattan	....	....	....	....	....	....	....	....	
Greenock	172 60	17 52	191 37	....	3	3	2	2	
Grey	202 00	6 83	200 00	6 83	3	1	3	....	
Griffith	....	....	....	....	....	....	....	....	
Howland	....	....	....	....	....	....	....	....	
Hullett	80 00	....	30 00	....	1	1	....	1	
Humberstone	104 70	....	157 19	....	4	5	5	7	
Humphrey	....	....	....	....	....	....	....	....	
Hungerford	219 70	160 06	224 29	38 90	7	4	6	6	
Huntington	15 00	2 50	15 00	....	....	1	....	1	Collectors' rolls for 1888 not yet returned.
Huntley	37 00	....	70 00	....	....	6	....	9	
Huron	223 88	8 12	280 00	6 00	....	12	....	10	
Innisfil	382 00	7 04	349 64	2 97	9	9	7	6	
Jocelyn	2 50	....	12 50	....	....	1	....	1	
Kaladar and Anglesea	39 00	....	6 00	27 00	....	....	....	....	
Keewatin	....	....	....	....	....	....	....	....	
Kennebec	46 10	....	48 73	1 94	1	....	1	2	
Kenyon	40 00	....	10 00	9 20	....	4	....	1	
Keppel	110 29	44 33	107 44	57 35	3	10	3	8	
Kincardine	376 96	92	280 40	16 84	5	9	2	9	
King	....	....	38 10	4 11	....	....	....	5	
Kingston	355 60	....	325 00	8 00	6	4	7	2	
Kinloss	180 17	20 42	70 00	12 73	5	6	5	5	
Kitley	131 70	....	208 04	....	6	....	6	1	
Korah, Tarentorus, Sault Ste. Marie, Owengo and Parke	....	....	....	....	....	....	....	....	
Lake Nipissing	....	....	....	....	....	....	....	....	
Lanark	....	....	10 00	1 60	....	....	....	1	
Lancaster	229 00	....	70 00	....	....	8	....	8	Includes $132.00 for nursing and medical attendance.
Lavant	....	....	....	....	....	....	....	....	
Laxton, Digby and Longford	....	....	....	....	....	....	....	....	None.
Leeds and Lansdown, Front	92 45	....	28 89	3 70	1	3	1	1	
Leeds and Lansdowne, Rear	74 50	....	123 75	....	2	2	2	1	
Limerick	....	2 00	....	2 00	....	1	....	1	
Lindsay and St. Edmonds	....	....	....	....	....	....	....	....	
Lobo	33 00	16 24	12 80	28 28	....	....	....	....	
Lochiel	56 00	3 75	20 00	17 59	1	1	....	1	
Logan	25 00	....	71 50	21 30	....	1	....	3	
London	358 85	16 52	547 47	7 51	....	24	....	36	
Longueil	....	....	....	....	....	....	....	....	None.
Loughborough	....	....	....	....	....	....	....	....	

RETURN to an order dated March 4th, 1889, shewing the amount paid out of the municipal funds, etc.—*Continued.*

NAME OF MUNICIPALITY.	AMOUNTS PAID FOR RELIEF OF INDIGENT PERSONS.				1887.		1888.		REMARKS.
	By direct payments, 1887.	By remission of taxes, 1887.	By direct payments, 1888.	By remission of taxes, 1888.	No. of indigents a permanent charge.	No. of indigents who received temporary aid.	No. of indigents a permanent charge.	No. of indigents who received temporary aid.	
	$ c.	$ c.	$ c.	$ c.					
Townships—*Continued.*									
Louth	4 51					2			
Luther, E.	31 80		31 00			3		3	
Luther, W	4 50	4 85				2			
Lutterworth		14 27		10 00					
Macaulay		17 12		6 80					
Madoc	159 10	30 08	152 76	22 76	3	4	3	5	
Maidstone	104 59	4 08	89 96	4 11		3		5	
Malahide	44 00		106 25			3		10	
Malden	177 98		63 00		2	2	1	2	
Manmouth									
Manvers	323 00		403 75		11	1	10	2	
Mara	168 00	12 14	127 60		1	9	1	5	
March									None.
Mariposa	683 40	3 72	794 76	5 69	11	6	12	5	
Markham									
Marlborough	50 00		50 00		2		2		
Marmora and Lake	207 50		236 75	5 00	4	1	4	1	
Maryborough	24 00	2 11	11 10	2 20		4		3	
Marysburgh, N	184 00		76 40		2	4		2	
Marysburgh, S	224 00		211 22	4 03	4	6	6	2	
Mattawa	2 50		8 00			1		1	
Matchedash									None.
Matilda									
Medonte	88 50		107 90	1 60	3	1	3	3	
Medora and Wood		13 28		19 87		2		4	
Melancthon	46 50		17 25			4		2	
Mersea	81 00		113 00		1	3	1	3	
Metcalfe	15 00					1			Coffins and funeral expenses.
Middleton	97 59		98 47		2	6	1	2	
Minden				11 88					
Minto									None.
Monaghan, N	231 00		66 25		1	4	1	2	

Monaghan, S.								
Monck		5 95	5 00	19 51				
Monmouth								
Mono	50 00	12 50	146 30	8 75	2	3	2	7
Montague								
Moore	368 00	2 54	428 00	2 34	8	4	9	6
Mornington	199 50		90 00			4		3
Morris								
Morrison	5 50					1		
Mosa		12 30	30 00	15 96				1
Moulton	227 25		143 90		3	1	3	2
Mountain	117 54		92 83		2	3	2	3
Mulmur	55 00	7 40	84 85	4 00		5		6
Murray	201 55		250 32		4	3	3	4
Muskoka	52 90	27 00	25 00	11 63		2		1
McClure, Wicklow and Bangor			6 50			1		
McDougall	126 75	8 25	20 54	16 80		2		2
McGillivray								
McKay								
McKellar		4 50	5 00	14 00				2
McKillop	136 50		175 25		2	6	2	6
McLean and Ridout	10 00		13 50			1		1
Grimsby, S.	19 08					3		
Grimsby, N		29		28				
Guelph	76 50		83 75		1	2	1	4
Guilford, Harcourt and Harburn								
Gwillimbury, E.	278 05		52 40	5 81		8		3
Gwillimbury, N								
Gwillimbury, W	135 70		205 05		2	1	2	3
Hagarty, Sherwood, etc.	10 00	25 60	20 00	34 10	1	4	1	5
Haldimand	774 69	3 56	882 20		13	6	13	11
Hallowell	6 32	4 18	9 48	6 13	8	14	11	17
Hamilton	486 02	4 30	457 92		7	2	6	4
Harwich	850 82		1,209 75	1 03	11	8	17	7
Harvey	21 50		25 03			4	3	4
Hawkesbury, E.		1 62		5 97				
Hawkesbury, W	13 10		8 33			1		1
Hay	30 75	12 13	66 50		5		5	7
Head, Clara and Maria								
Herschel and Monteagle	30 00		47 00		3		3	
Hilbert	171 00		127 90		4	2	4	
Hillier	492 64	7 95	562 07	29 29	4	4	4	2
Hilton				2 32				1
Hinchinbrooke	66 00		45 00	27 01		3		5
Hinsworth, W.								
Holland	15 00		10 00	13 69		2		7
Hope	586 60		604 67		13	6	12	3
Horton		14 15		13 05				
Houghton	32 00		10 00	3 36		4		3
Howard	308 77		396 40		2	4	3	
Howe Island								

RETURN to an order dated March 4th, 1889, shewing amount paid out of Municipal Funds, etc.—*Continued.*

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	By direct payments, 1887.	By remission of Taxes, 1887.	By direct payments, 1888.	By remission of Taxes, 1888.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	Number of indigents a permanent charge.	Number of indigents who received temporary aid.	
	$ c.	$ c.	$ c.	$ c.					
Townships—*Continued* :—									
Howick									
McNab		3 20		5 67				1	
Nassagaweya	190 50	4 54	212 79	3 65	1	6	1	8	
Neebing	68 12		144 00						
Nelson	400 00		524 24		4	8	4	4	
Nepean	25 00	7 56	48 00	3 21		4		4	
Niagara	89 72				7	1			
Niagara Falls									
Nichol	1 00	4 51	6 00	4 71		1		2	
Nipissing									
Nissouri, E.	64.00		55 00			4		4	
Nissouri, W									
Normanby	155 55	43 25	186 25	29 50	5	3	5	3	
Norwich, N	38 35		137 59			2	1	4	
Norwich, S.	313 84	2 54	231 97	5 40	4	8	4	2	
Nottawasaga	78 00	18 50	114 00	5 00		10		11	
Oakland	185 76		220 70		3		3		
Olden		4 90		22 28		2		4	
Oliver									
Oneida	136 00		160 00		2		2		
Onondaga									
Ops	56 15	15 42	54 82		1	3	1		
Orford	453 50	50 00	3 20	26 00	4	4	3	1	
Orillia	77 00	5 09	68 00	1 38		5		5	
Oro	189 50	8 56	298 54	7 13	1	6	1	7	
Osgoode	40 95	/	10 00	8 16		5		1	
Osnabruck	292 87		434 72		9	3	9		
Oso and Sherbrooke, S.									
Osprey	52 90	121 30	105 65	116 07	4	2	4	3	
Otonabee	343 71	5 08	400 20	4 75	7		7		
Oxford	240 00	5 60	223 20	5 83	5		5		
Oxford, E.	55 00		59 35			3		3	

Oxford, N.	153 83		194 60		3	1	4		
Oxford, W	262 64	2 42	270 10	2 17		17		15	
Pakenham	47 00	19 00	38 00	19 22	2	2	2	3	
Palmerston and Canonto		3 60	10 00						
Papineau.									None.
Peel	15 00	68	77 00	6 29		2		10	
Pelee Island									
Pelham	413 68		204 00		6	2	5	2	
Pembroke									
Percy	499 60		413 11		5	2	4		
Perry									None.
Pettewawa									
Pickering	1149 66		996 61		33	4	25	3	
Pilkington	3 50			4 00		2			
Pittsburgh	98 00	36 75	93 00		1	3	1	1	
Plantagenet, N	5 98	32 88	14 00	21 32		5		7	
Plantagenet, S	10 00			1 40		1		2	
Plympton	277 10	1 60	405 20		2	8	2	9	
Portland	62 61	4 65	108 72	5 17	4	6	4	9	
Proton	15 00		10 00			1		1	
Puslinch	6 00	7 60	18 39	18 60		4		4	
Radcliffe and Raglan			16 00					1	
Rainham	183 68		280 20		3	3	3	2	
Raleigh	301 48		261 20		5	8	5	4	
Rama	50 00	7 50	51 00	7 50		4		5	
Ramsay									
Rawdon	102 00		174 99		1	4	3	6	Collector's roll not returned in 1887-8.
Reach	701 32	6 90	942 06	15 33	19	4	21	6	
Richmond									
Rochester	56 85		51 00			2		6	
Rolph, Wylie and Buchanan			30 00	4 50		6		5	
Romney									
Ross		14 02	8 00	92 00				1	
Roxborough	52 00	17 80	64 00	22 00		6		7	
Russell	25 00	12 00	40 00	15 00	3	5	5	6	
Ryde			6 46	13 25				3	
Ryerson			10 00					1	
Saltfleet	599 49		458 96		6	3	7	2	
Sandfield									
Sandwich, E.	154 26		154 11	22 00		7		7	
Sandwich, W									
Sarawak	8 50		89 39			1		3	
Sarnia	106 73	7 68	120 95			6		9	
Saugeen	145 00		102 73			6	1	3	
Scarborough									None.
Scott	292 57		296 45		6		4	2	
Scugog		1 09		1 12					
Sebastopol	25 00		25 00			1		1	
Seneca	217 57	7 32	235 27	4 00	3	4	4	3	
Seymour	278 00		334 81	14 68	7	1	7	4	
Sheffield	144 93		121 95			8		6	

RETURN to an order dated March 4th, 1889, showing the amount paid out of Municipal Funds, etc.—*Continued.*

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	$ c.	$ c.	$ c.	$ c.					
Townships—*Continued*:—									
Sherbrooke									None.
Shuniah									
Sidney	610 95		755 60		10	2	12	3	
Smith									
Snowden			2 70	12 00				1	
Sombra	190 00	38 49	166 24	19 50	3	4	2	6	
Somerville									
Sophiasburg	344 65	2 91	234 75	3 49	4	4	2	4	
Southwold				1 00					
Springer	10 00		15 00			1		3	
Stafford									
Stamford	307 20	11 41	279 62	9 36	4	3	3	3	
Stanhope and Sherborne		24 73							
Stanley	102 00		147 18			3		4	
Stephen	65 50		129 65		1	4	1	4	
Stephenson	15 60	2 17	20 00			3		2	
St. Joseph's Island	131 25		184 98		2	1	2		
Stisted			15 00					1	
Storrington	17 50	1 87	59 50			1	1		
Strong									
St. Vincent	428 43		700 72		5	6	8	5	
Sullivan	142 50	55 40	153 00	126 17	3	10	2	12	
Sunnidale	10 00	7 93	44 67	24 26		2		8	
Sydenham	182 20	13 40	146 00	31 55	3	8	3	9	
Tay	60 00	2 50	64 40	1 00		3		6	
Tecumseh	261 00		321 00		3	4	3	4	
Tehkummah									
Thorah	32 00	8 68	50 20	4 71		6		8	
Thorold	58 00	5 77	12 75	6 89	2	5		3	
Thurlow	334 00	30 38	481 00	21 15	6	5	7	15	
Tilbury, E.	373 88		574 55		5	4	5	5	
Tilbury, W.	473 00	4 43	784 88	4 49	5	7	5	8	

Tiny									
Torbolton		4 40	5 00			3		3	
Toronto	504 25		607 86	5 00	12	10	12	10	
Toronto Gore	30 00		87 40	1 00		2		3	
Tossorontio	35 00		52 75		2	2	2	3	
Townsend	29 00		47 00			5			
Trafalgar	341 57		399 45		3	8	5	5	
Tuckersmith	297 00	4 03	*463 50	2 38	1	11	1	14	*Includes $100 bonus for adoption of foundlings.
Tudor and Cashel	29 50	14 12	36 15	9 22		2		3	
Turnberry	172 71	3 74	238 32	10 03	3	2	5	4	
Tyendinaga	348 95		274 29	6 00	11	5	9	4	
Unorganized townships									
Usborne	383 25		296 08		4		4		
Uxbridge									
Vaughan	149 10		105 00			1		1	
Verulam									
Vespra	75 32		182 41		4		5	6	
Wainfleet	283 99	1 16	237 30	1 73	9	1	7	1	
Wallace	5 00		33 25	8 55		1		3	
Walpole	208 00		234 90			6		5	
Walsingham	74 51	1 00	74 37½			6	1	4	
Warwick	159 20		189 60			5	2	5	
Waterloo	*235 40		*20 57	1 89		6		2	* Both sums paid for medical attendance.
Watt	5 00	5 00	17 00			1		2	
Wawanosh, E.	172 11	13 00	70 00	9 95	1		1		
Wawanosh, W.									
Wellesley									
Westmeath									
Westminster	186 41	42 61	108 03	36 00		8		6	
Whitby, E.	355 26	3 48	308 45	6 62	6	4	6	1	
Whitby W.	566 07	7 95	636 84	6 23	7	8	7	7	
Whitchurch	3 20	16 12	50 00			2		1	
Widdifield									
Wilberforce and Algona									
Williams, E.	13 39	2 00	14 10	2 00		1		3	
Williams, W.		4 05	10 00	2 78		1		2	
Williamsburg	452 40	88	530 75		6	7	10	3	
Willoughby	16 00	3 73	11 05			4		3	
Wilmot									House of Industry and Refuge at Berlin.
Winchester									
Winchester, W.			3 00			1			
Windham	57 88	4 04	66 95	5 75		9		8	
Wolfe Island									
Wolford	183 50		294 25		3	2	3	4	
Wollaston	3 75	6 00	9 89			3		1	
Woodhouse	74 72	1 18	117 09		1	4	1	7	Repaid by county, in 1887, $41.50; in 1888, $85.36.
Woolwich	111 25		113 00			6		5	

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	$ c.	$ c.	$ c.	$ c.					
Townships.—*Continued.*									
Yarmouth	29 50	5 00	8 50	....	....	2	....	1	
Yonge, Front of	310 11	....	357 38	35 45	6	4	3	14	
Yonge, Rear of Escott, Rear of	143 44	....	172 50	11 40	2	8	2	11	
York	468 70	....	322 60	....	....	5	....	17	
Zone	65 00	12 23	85 75	4 10	....	6	....	6	
Zorra, E.	761 96	....	710 75	....	14	....	13	....	
Zorra, W.	323 00	54	495 00	27	2	10	2	9	

(No. 78.)

Statement of the Returns made by Municipalities under "The Tile, Stone and Timber Drainage Act," R.S.O., 1887, chapter 39, for the year 1888. (*Not printed.*)

ANNUAL REPORT

OF THE

DAIRY AND CREAMERY ASSOCIATIONS

OF THE

PROVINCE OF ONTARIO,

1888.

I.—DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.
II.—DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.
III.—CREAMERIES ASSOCIATION OF ONTARIO.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.

TORONTO:
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1889.

CONTENTS.

PAGE.
I. DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO 1
OFFICERS OF THE ASSOCIATION, 1889 3
MEMBERS OF THE ASSOCIATION 5
TWELFTH ANNUAL CONVENTION 9
The President's Opening Address : E. CASSWELL 9
Committees 9
Uses of the Convention : Prof. J. W. ROBERTSON 10
Privileges 11
Intelligence and Progress : C. E. CHADWICK 11
Supply and Demand : DISCUSSION 12
Breeding Horses as an Adjunct to Dairy Farming : Prof. ROBERTS 13
The Hog as an Adjunct to Dairying : Prof. ROBERTSON 18
Cheese from Gassy Curd : DISCUSSION 20
The "Deacons" and other Nuisances 22
Plants and Animals : Prof. ROBERTS 23
Election of Officers 35
Reports of Instructors and Inspectors 35
General Discussion 45
Address by Hon. Charles Drury 50
Cheese-making for Beginners : Prof. ROBERTSON 52
What kind of a Cow does a Dairyman need ? Paper by Governor HOARD 57
Past, Present and Future of Dairying in Ontario : Prof. ROBERTSON 63
Mr. Lossee's Retirement 68
The Question Drawer 69
Cheese-making in New York : Mr. RICHARDSON 75
Financial Statement 79
Delegates to Dominion Dairymen's Association 79
Report of the Committee on Utensils 80
Report of Committee on Resolutions 80
The American Visitors 81

II. DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO 83
OFFICERS OF THE ASSOCIATION, 1889 85
MEMBERS OF THE ASSOCIATION 86
TWELFTH ANNUAL CONVENTION 89
President's Opening Address : J. K. MCCARGAR 89
Address : Prof. ROBERTSON 89
Question Box 93
Why do we feed Dairy Cows ? Prof. ROBERTS 97
How not to do it—A New Version : Prof. J. B. HARRIS 99
Co-operative Dairying as it was, is and should be : Prof. ROBERTSON 101
The Question Drawer 110

II.—DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO—*Continued.* PAGE.

The Hog as an Adjunct to the Dairy : Prof. ROBERTSON 112
The Soil, the Plant and the Animal : Prof. ROBERTS 114
Auditors' Report 116
Election of Officers 117
Remarks of the President Elect 117
Remarks of the Retiring President 118
Report of Instructors 118
Good Strong Boxes Wanted : Mr. ALEXANDER 119
The Lessons of the Convention : D. M. MACPHERSON 120
Prizes for Essays 122
Report of the Committee on Dairy Utensils 123
Resolutions 123

III.—ONTARIO CREAMERIES ASSOCIATION 125
OFFICERS OF THE ASSOCIATION, 1889 127
MEMBERS OF THE ASSOCIATION 128
FOURTH ANNUAL CONVENTION 129
President's Address : D. DERBYSHIRE 129
The Creameries of Ontario as an Economic Factor in our National Life : Prof. ROBERTSON 130
A Message of Congratulation 136
Ensilage as a Factor in our Dairying Operations : J. GOULD 136
Butter-making : Prof. ROBERTSON 143
Milk Tests for Adulteration : Dr. T. MACFARLANE 147
The Dairying Demanded by the Times : J. GOULD 147
Auditors' Report 153
Election of Officers 154
Remarks by the President 154
Delegates 154
Compliment to a Retiring Officer 154
Reports of Instructors 155
Small Packages for Encouraging Home Trade : The PRESIDENT 159
Complimentary Resolutions 160
Closing Remarks 160

I.—DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

OFFICERS FOR 1889.

President,	Robert Cleland, Listowel.
1st Vice-President	J. B. Lane, Dorchester Station.
2nd Vice-President	Benjamin Hopkins, Brownsville.

Directors :

Division No. 7.—John Prain, Harriston.
Division No. 8.—Francis Splatt, Dunnville.
Division No. 9.—E. Casswell, Ingersoll.
Division No. 10.—William Messer, Bluevale.
Division No. 11.—Thomas Ballantyne, Stratford.
Division No. 12.—William Symington, Camlachie.
Division No. 13.—D. Leitch, Strathroy.

Secretary	C. E. Chadwick, Ingersoll.
Treasurer	J. C. Hegler, Ingersoll
Auditors	J. S. Pearce, London. John Robertson, London.
Representatives to Western Fair, London	John Geary, London. James Carmichael, Arva.

LIST OF MEMBERS

OF THE

DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO

FOR THE YEAR 1889.

NAME.	POST OFFICE.
Archibald, L. C	Antigonish, N.S.
Angus, William	Newry.
Alderson, James	Kintore.
Alexander, George	Watford.
Agur, E	Dunkeld.
Anthony, George	Napier.
Batchelor, B.	Birnam.
Bell, George	Waneche, Man.
Baskett, Miss S.	London.
Berry, Peter	West Lorne.
Bell, Adam	Sebringville.
Berry, Thomas D.	Brownsville.
Boyes, George	Nilestown.
Bothwell, W. A.	Luton.
Beaton, John	Eden.
Ballantyne, Thos., M.P.P.	Stratford.
Brett, William	Ingersoll.
Bothwell, William	Woodstock.
Brody, John	Pond Mills.
Bolton, Edward	Arva.
Barr, Samuel	Mossley.
Beckton, James	Keywood.
Bedgewood, John	Crumlin.
Blyth, J. W	West Flamboro.
Bean, W. H	Newbridge.
Brown, M. R.	Appin.
Boncer, James	South Middleton.
Caddey, Thomas	Ingersoll.
Chown, W.	Elimville.
Cuddie, R.	Woodstock.
Colwell, W	Drumbo.
Copeland, J. W.	Eastwood.
Cranston, R. R.	West Magdala.
Clark, J. S.	Warwick West.
Clark, W. R.	London.
Curtis, R. J.	Avon.
Cohoe, E. F.	Norwich.
Clark, A. O.	Sparta.
Chitton, Wm	Harrietsville
Cleland, Robert	Listowel.
Carmichael, James	Arva.
Creighton, James	Nilestown.
Clarke, Milton	Nilestown.
Coutts, E.	Mossley.
Coleridge, Wm	River Bank.
Condyean, Phillip	Granton.
Chambers, J. W.	Poole.
Dewan, Wm.	Granton.
Downham, Peter	Lucan.

LIST OF MEMBERS.—*Continued.*

NAME.	POST OFFICE.
Dennis, J. H.	Corinth.
Deer, W. T.	Muirkirk.
Denis, Oscar	Lyons
Dunlap, Wm.	Fort Gratiot, Mich.
Dann, W. J.	Birr.
Dunn, Peter	Hickson.
Deo, C.	Gladstone.
Donnelly, Charles	Ronson.
Drummond, R. J.	Glasgow, Scotland, care of A. Clement.
Evans, John	Belmont.
Effinham, Wm.	Thorndale.
Elliott, James	Tilsonburg.
Forrester, John	Mossley.
Fulton, John	Brownsville.
Fick, W. A.	Paris.
Ford, William	Griffin's Corner.
Flett, James	London.
Foster, H. O.	Tiverton.
Farncombe, H.	London.
Farrington, J. L.	Burgessville.
Facey, Robert	Harrietsville.
Griffith, A.	Thorndale.
Grey, Hubert	Yarmouth Centre.
Goodhand, G. E.	Innerkip.
Grey, W. H.	Newry.
Gage, G. N.	McCready.
Grieve, Thomas	Wyandotte.
Granger, C. W.	Thamesville.
Geary, John	London.
Grant, Wm.	Port Burwell.
Griffith, W. A.	Thorndale.
Hoover, J. M.	Springfield.
Hunter, Edward	Woodstock.
Hogan, Thomas	Innerkip.
Henderson, A. C.	Wingham.
Hibbard, W. P.	Stratford.
Howard, Samuel	Gorrie.
Hopkins, Benjamin	Brownsville.
Hannen, M. A.	St. Thomas.
Heet, Wm.	Dutton.
High, John	Bayham.
Hopkins, J. E.	Evelyn.
Henderson, John	Thamesford.
Hopkins, James E.	Brownsville.
Isaacs, J. B.	London.
James, James	Nilestown.
Jarrett, S.	Ingersoll.
Johnston, R.	Granton.
Johnston, Edward	Granton.
Jummerman, D.	Bamberg.
Kerr, George	Warwick.
Keeler, A.	Wallacetown.
Killam, Oran	Beachville.
Kidd, Martin	Seville.
Lossee, H. S.	Norwich.
Lane, J. B.	Gladstone.
Law, Wm.	London.
Leitch, Dougald	Strathroy.
Lamont, J. G.	Eastwood.
Morrison, James	Fullarton.
Middleton, J	Winger.
Montgomery, John	Goldstone.

LIST OF MEMBERS.—*Continued.*

NAME.	POST OFFICE.
Muir, John	Riverbank.
Manning, C. W.	Derwent.
Messer, W.	Bluevale.
Markham, J.	Ingersoll.
Morris, C. P.	Culloden.
McLaren, Alexander	Stratford.
McLaren, Wm.	Laurel.
McFie, J. W.	Appin.
McCallum, Angus P.	Gladstone.
McLean, W. H.	Crinan.
McEwan, J.	Stratford.
McDermott, James	Blythe.
McMillan, R. S.	Dutton.
McKay, J. L.	Sparta.
Macmillan, F.	Stratford.
McTaggart, Geo. E.	Seaforth.
McLellan, John	Crinan.
McCallum, H.	Gladstone.
McKenney, Thomas	Ostrander.
McNeil, John	Iona Station.
McLaughlin, S.	Fingal.
McArthur, D	Tupperville.
McMillan, Duncan	Kintore.
McCauley, James	Lyons.
McIvoride, Wm	Varney.
Nimmo, Thomas	Ripley.
New, C.	Vyner.
Nancekiville, Wm.	Ingersoll.
Ovens, C.	Atwood.
Prain, John	Harriston.
Pym, John	Centralia.

NAME.	POST OFFICE.
Park, A.	Blake.
Pierson, J	Corinth.
Parker, A.	Bloomsburg.
Pearce, J. S.	London.
Pickard, Amos	St. Marys.
Papineau, P. C	Belmont.
Pomeroy, Wm	Shakespeare.
Powell, Leonard	Avon.
Power, A. A.	Northville, Mich.
Reid, Henry	Devizes.
Riley, C. W.	Ingersoll.
Richardson, Robert	Watford.
Ruckle, M.	Lyons.
Roy, James	Thedford.
Richardson, H.	Strathroy.
Robertson, Robert	London South.
Revell, Charles	Lambeth.
Robertson, John	London.
Ruddick, J. A.	Lancaster.
Robertson, John, jr.	London.
Splatt, F.	Dunnville.
Slawson, C. H.	Ingersoll.
Sinclair, Duncan	Harriston.
Stacey, Thomas	Fullarton.
Stevely, Wm.	London.
Sills, D.	Ferguson.
Shaver, A. C	Bryanston.
Smith, R. B.	Keyser.
Schragg, C.	New Hamburg.
Simmons, O.	Verschoyle.
Symington, Wm.	Camlachie.
Stewart, E.	Flesherton.

LIST OF MEMBERS.—*Continued.*

NAME.	POST OFFICE.	NAME.	POST OFFICE.
Soper, C.	Guysboro.	Waddle, Thomas	Kinloss.
Stratton, H. W.	Straffordville.	White, Henry	Pine River.
Smuch, Charles G.	Tupperville.	Walton, Frank	Birr.
Smuch, J. P.	Tupperville.	Wright, Francis	Kerrwood.
Scott, J. W	Sparta.	Wilson, Wm.	Rothsay.
Talbot, James S.	Crumlin.	Walton, J.	Elginfield.
Thomson, Wm	Arkona.	Williams, John H.	Derwent.
Tricker, J. M.	Mapleton.	Williams, James F	Culloden.
Traverse, George	Courtland.	Wilford, John	Ingersoll.
Traverse, C. C.	Straffordville.	Wilkinson, J. H.	Verschoyle.
Warbridge, A.	Corinth.	Wright, Tom	Shakespeare.
Webb, Geo. S.	North Bruce.	Young, Thomas	Strathroy.

TWELFTH ANNUAL CONVENTION

OF THE

WESTERN DAIRYMEN'S ASSOCIATION.

The twelfth annual convention of the Dairymen's Association of Western Ontario was opened at 2 o'clock p.m., January 16th, 1889, in Victoria Hall, in the City of London, the President, E. Casswell, Esq., of Ingersoll, in the chair.

PRESIDENT'S OPENING ADDRESS.

President Casswell, in opening the convention, said:

GENTLEMEN,—It affords me great pleasure, I assure you, to welcome so large and intelligent a gathering of dairymen at what is the twelfth convention since the associations were organized east and west. I sincerely hope it will prove as interesting and as helpful to those who take part as those conducted in the past. During the year now closing, your directors made a new departure by the appointment of four men who acted in the double capacity of inspectors and instructors, being paid partly by the factories and partly out of the funds of the Association. Great good has, I believe, resulted from the experiment, and I hope we will be in a position to have the system more fully carried on. A full account of the work performed by these men will be submitted, and a general review will be given by Prof. Robertson, under whose direction they worked. Factories which at first objected to the inspection system now desire to enjoy the advantages which it affords. Farmers will, I believe, continue to send their milk to the cheese factories because during the past season our industry paid them well indeed in comparison with other branches of agriculture. Competition abroad is, however, increasing, and it will be necessary to keep down the cost of production and the quality of the product up to a high standard, in order that Canada may, as I believe she will continue to do, hold first place in the markets of the world. In referring to the finances of the Association, let me say that I hope that the Provincial Government will see its way clear to further increase the grant, especially that the work of inspection may still be carried on, and I feel sure that aid given would be well laid out, and that it would not only prove of general satisfaction to the public, but prove highly beneficial to the great industry with which we are identified. (Applause.)

COMMITTEES.

The following committees were appointed:

Order of Business—Messrs. Benj. Hopkins, Prof. Robertson, R. Cleland, J. W. Scott and Wm. Messer.

Nomination of Officers—Messrs. John Fulton, Hopkins, J. Leitch, Scott, John Prain, Jas. Carmichael and Messer.

Furnishings—Inspectors J. E. Hopkins, E. Hunter, J. R. Isaacs, H. O. Foster and Mr. John Robertson.

Resolutions—Prof. Robertson, J. S. Pearce and J. B. Lane.

Finance—R. Cleland, J. E. Hopkins, R. Facey, Thomas Ballantyne, M.P.P., the President and John Robertson.

Legislation—R. Cleland, J. L. Farrington, R. Facey, James E. Hopkins and J. B. Lane.

The President, at the suggestion of Mr. Lane, requested the Committee on Legislation to give special attention to the Milk Act which, it was thought, was susceptible of improvement in certain directions.

USES OF THE CONVENTION.

Professor Robertson, of the Ontario Agricultural College, being called upon, said:—It will be in place to offer a few observations upon "The Proper Uses of the Convention." I am glad to meet so large a gathering at a dairy meeting in London, the home of my adoption and the centre of the largest dairy interests in Canada. It affords me great pleasure to see so many young men present ready and anxious to learn. I am pleased to greet the older men, who are fortified with ripe experience and ready to contribute of their knowledge, and I am sure that all of us are gratified at the presence of Prof. Roberts, of Cornell University, and Messrs. Richardson and Lewis, also from the "other side," who will give the Convention the benefit of much valuable information. The purpose of a convention is to serve somebody in some useful way. My purpose in being here is to learn all I can about my own business and to assist others. A convention is a conference for the exchange of ideas, therefore, I hope that those before me will be not merely auditors, but will discuss freely what is said upon the platform, and thus contribute something to the advancement of practical dairying. Close attention on the part of the audience is essential.

Every man knows something that others do not know, and the aggregation of ideas will supply a large fund of information which all can carry away. Our object is to get to know more of the truth about our own business. Discussions should be conducted kindly and cautiously. I do not dislike a man with whom I differ in opinion, or who opposes my opinions. It is by consideration and discussion that the truth is disclosed. The Association is a deliberative body designed to further the dairy interests of the whole western district, and the result of our deliberations should be crystallized into plans for the coming season's work. I desire men's intelligence to be quickened and their judgments matured to act with the object of rearing better cows, feeding them better, producing better milk and cheese and securing better returns. I wish this Association to be a living organization. A corpse is a perfectly proper and well-behaved body, but after all it is only a dead body. The plans of this convention ought not to find a resting place merely on the paper of the annual reports. Last year a resolution to appoint inspectors was passed, and we know the good that has been accomplished by that inspection. This western part of Ontario has exported the most and the best cheese produced on the continent of America, but there must be progress and improvement, for there are formidable rivals across the lines. New York State is now making as good cheese as Ontario, but they are consuming two-thirds of it, and the best of it at home, the inferior third being sent abroad. If we are to retain the place of pre-eminence our methods must be improved. In reference to the proposed Dominion Dairymen's Association, for which I believe there is now scope, especially in regard to the general interests of the trade, I would ask the convention to appoint delegates to the meeting at Ottawa for the purposes of organization. It is important that the destinies of the new organization be in a measure, shaped and directed by those older and experienced men, who have in the past done so much in furthering the dairy interests of Canada. In the next place I would like to see more experimental work done in connection with cheese making, but this cannot be successfully carried on in connection with the ordinary factories, hence I would favor the suggestion of Mr. Ballantyne, of Stratford, that two experimental factories, one in the west and another in the east be established. They could also be made of great value by the training of young makers at stated periods during each season. Systematic dairy education is a subject in connection with which more should be done in the future; but I believe that the dairymen should not look to the Government for what they can accomplish for themselves.

A small sum provided by each patron or factory would supply ample means for the work of instruction. It seems to me that the onus of prosecuting dishonest patrons should not rest upon the inspectors as at present constituted; for they are doing the work of instruction as well. Their time is too valuable to be frittered away attending courts. If a man who is running a factory has not backbone enough to prosecute a dishonest patron, he ought to quit the business. (Applause.) The inspector having done his duty, the result should be taken by the factory directors as the basis of action. The work of inspection and instruction ought, in my opinion, to be separated, and the former done by one, two or more Government officers, independent of the Association or the factories, dropping down upon a factory near Chatham, London or any other place at any time. As far as the law is concerned, I think it should be preventive rather than punitive, and almost all depends upon the certainty of the tests and reports of the inspectors. I do not think the factorymen and makers are warranted in looking to Government for gratuitous instruction. Then again, I think, the makers should cultivate a spirit of consultation and co-operation among themselves for purposes of improvement, just as there should be co-operation on the part of patrons in order to provide more of a better quality of milk. It is the purpose of the department at Guelph during the coming season to issue bulletins in advance for each month free, and I would like all the makers to send me their addresses in order that they may be thus put in early possession of practical and timely suggestions, which will aid materially in prosecuting the important work with which they are entrusted. (Applause.)

W. L. Brown.—With regard to the inspection, would not that come under the Dominion Adulteration of Food Act?

Prof. Robertson.—I am not a politician, but in the interests of dairying I want to see the law enforced. To whomsoever the duty belongs, by them I desire to see inspection enforced.

PRIVILEGES.

President Casswell.—I am pleased to announce that the management of the Young Men's Christian Association, in whose hall we are meeting, have kindly offered us the free use of their parlor and reading room, in which, if required, committee meetings can be held.

INTELLIGENCE AND PROGRESS.

Mr. C. E. Chadwick, Secretary, of Ingersoll, said:—I am glad to hear Professor Robertson appeal to the intelligence of the dairymen in the development of this noble industry. Years ago it was thought that we had attained unto perfection in cheese making, but we were mistaken. We have not got there yet, though development has been going on during the past 10, 15 or 20 years. Many of those who have done much for this industry, have not profited most by it, and it is for those to whom the substantial returns are coming now to step forward and aid in the matter of further advancement. If we do not go forward, we will be left behind, because others are not going to stand still. Great Britain is the market for Canadian surplus products, and for that market we must cater in the face of keen competition. I regard dairying as the most profitable specialty in which the Ontario farmer can embark.

SUPPLY AND DEMAND.

Mr. D. LEITCH, of Strathroy.—Is not the production of cheese liable to exceed the demand for consumption? If we are to go on as we did in some particulars last summer, the outlook is not promising. I would like to hear this point discussed.

President CASSWELL.—The trouble last summer was from manipulation and speculation in the market. I don't think the demand is falling off. On the contrary it is increasing. The Americans are now consuming the larger proportion of their product, and if we are to cultivate a home market, we must do as they do, turn out a better article for the home trade. If we make a good article, we can always obtain a good price at home and abroad. In our local markets last summer, John Jones would not sell till Tom Smith sold, in order that he could get a $\frac{1}{4}$ of a cent more on the pound. (Laughter.) We should do as the Americans—sell when the product is fit for the market without waiting. Early last season a cry was raised that the production was going to be excessively heavy and likewise the competition from New Zealand, but the fears turned out to be groundless. You should remember that the early cheese is for a ready market, and the trouble last summer was not from overproduction, but from manipulation.

Mr. LEITCH.—What about the future chances of Canadian cheese in the British market?

The PRESIDENT.—My opinion is that the Englishman don't care where his cheese comes from. The point with him is: Is it good and is it cheap? The problem with us is to retain the hold we now have upon that market. We have the prestige now, and we must maintain our position by getting better milk at the factory. The whole thing is: How cheaply can we get good milk from the cow and turn it into first-class cheese. We have the land. We have the conditions and we can do it. Our farmers generally in Ontario must turn their attention to grazing and dairying, for wheat production has gone to the great fields of the West. It is a fact that we can produce cheese as cheaply as any country in the world. We must not expect too much from the cow. There are complaints about the poor quality of cheese placed upon the Canadian market, and I believe that with the right kind of product home consumption may be increased ten fold.

Mr. BENJAMIN HOPKINS.—I do not propose to cross a bridge before I come to it. From our district we sold 466 tons last season at nearly 10 cents a pound, and the season before 470 tons at over 10 cents. We sold in good time and at what I consider fair prices. If we make a good article we can sell it all at a good price. True, cheese would fluctuate just like grain. Look at wheat! Away down, and then last season up to $1.25 per bushel. As to what Mr. Casswell has said, I think salesmen have quite as good right to study the signs of the market and to hold on for a rise, as others have to speculate, using refrigerators and cold storage. Dairymen have no occasion to be discouraged; let them go forward and improve the quality.

The PRESIDENT.—Past experience has been all in favor of regular selling and against salesmen turning speculators. I do not say this in my interests, but in the interests of the dairymen. I know factories near Ingersoll that lost $3,000 and $4,000 last season by not selling when the cheese was ready. I want to tell you that there is no man better posted about our cheese in stock, the quantity sold or in course of shipment than the English dealer. Complaints have been made in the press about secrecy in our markets, but our buying and selling are matters of private business.

Mr. CHADWICK.—Each year disposes of its own product, and I do not think there is the slightest danger that the supply will be excessive or that the industry will not admit of further expansion, if all branches are intelligently carried on.

Prof. ROBERTSON.—This is an important question. If there is this danger of excessive production, we had better look about for some other business. The make is on the increase, but so is the cheese consuming population of the world. The consumptive demand is always somewhat in advance of the prospective supply. In the markets of Great Britain we are meeting competition from New Zealand, from the Argentine

Republic, where a dairy company with $1,000,000 capital is being organized. Brazil will soon be there, and there are besides the United States, Holland, Belgium, Denmark and the other dairying districts of Europe. Can we succeed? I believe that no other kind of food which America can produce, will give the same amount of energy to the eater so cheaply as cheese. Now, if we in Ontario are going out of cheese dairying, what are we going into? Grain, beef, mutton or pork? Worse. In all of these the competition is more keen than in cheese, while in this we possess the vantage ground. In the competition between the different kinds of food for favorable attention in the great markets of the world, cheese will win when compared with beef, mutton or pork. A farmer is able to produce 20 lbs. of cheese at as little cost as 20 lbs. of beef. The 20 lbs. of cheese will net the farmer nearly twice as much as 20 lbs. of beef, and will nourish the consumer as much as 40 lbs. of beef. When competition becomes keener, it is safe to conclude that cheese will hold its own. If Canada can provide England with good cheese at six pence per pound, it would displace canned beef and canned salmon and other commodities of that character; and as when postage was reduced and railway fares were lowered, there grew an immense increase in letter sending and travel, so will be the effect upon the consumption of cheese. We all know that a season of cheaper cheese is followed by one of heavier consumption and better prices. The course of the Canadian dairymen is therefore plain—reduce the cost of producing in first-class palatable cheese. On the other point which was raised, I do not think it would pay the farmers of Ontario to turn speculators as against trained men.

Mr. Leitch.—Has Canadian cheese found its way into the smaller English towns—those of 4,000 and 5,000 population?

Prof. Robertson.—Yes, but frequently as "English" or "Scottish" cheese. We still suffer in some parts, because of John Bull's prejudice, which is hard to overcome. The dealers in those towns know it to be Canadian, but label it otherwise.

On motion the Convention adjourned to meet at 7.30 p.m.

EVENING SESSION.

The Convention resumed at 7.40. The President, after calling the meeting to order, introduced Prof. Roberts, to deliver an address on

BREEDING HORSES AS AN ADJUNCT TO DAIRY FARMING.

Prof. Roberts said:—It may seem a little strange that I should occupy your time in discussing the subject of breeding horses on dairy farms, especially as we are met here particularly to discuss dairy matters. But before we get through I hope to interest you and possibly give some instruction, and what I shall say will be what I know, and in those portions of my address where I merely give my opinion I shall point that out. Or, in other words, I will speak from facts I have learned in actual practice. So much for that. The next thing is that I want to thank you people of Canada for the honor you continually confer upon me in asking me, a plain man as I am, although holding a responsible position, to come to you annually, and almost semi-annually and talk upon these subjects. I sometimes feel I am getting more benefit in looking into your faces and drawing inspiration from the study painted there, and in hearing what you have to say than will make up for any instruction I impart, and so I count myself your debtor. In my position, naturally, I am paid sufficiently, so that I do not have to count the dollars so closely now or live with the expectation that my whole life and knowledge must be sacrificed upon the institution in connection with which I am engaged and of which I am an unworthy professor. But I have been ground through this practical mill as none of you have. I have fought through those winter zephyrs when the thermometer stood 40 degrees below zero, day after day and night after night, to save my stock from being frozen to death, and so I have learned some of the lessons of life. Now, I come to you, hoping what I say may be to the point, that it may be something you can improve and put in practice and thereby receive some benefits. Down in New York there is a little town where they manufacture cans for canning beef, and as I went through that manufacturing establishment I saw a very complicated machine through which they ran the can and it came out soldered by machinery. The man in charge said "We are going to remove that machine and put one in that costs $6,000." "And why?" we asked. "Because," he said, "we can save an ounce of solder on every 500 cans, and that will pay for the machinery in a very short time, and all we get after that will be profit." I was down two weeks ago, in the cedar district of the south, and there saw in operation a process by which they glue sawdust together and were turning bureau knobs of it. Now, if you will feel the temper of this meeting to-day it is that the farmers want more money for the energy bestowed upon their work. That is the feeling of all farmers' meetings in Canada and the United States. Now, I ask this plain question for your consideration, and then I want to make an application of it to breeding horses. Do farmers as a class use that economy, that skill with respect to the animals and plants they raise, or in the tools they use, that the mechanics do in their operations? Have we brought the science and the skill of the 19th century down to agriculture that those engaged in the mechanical arts have brought down to their vocation? To-day I find that in this province of Ontario there are 296,000 horses on your farms besides 111,907 brood mares. I am not well enough acquainted with your statistics to know definitely, but I presume that these brood mares are animals kept largely or almost exclusively for breeding. In either case it will make no difference. No matter about the young stock. What are the horses doing this winter on farms? A horse is to reproduce its kind. Now, I judge there are 300,000 idle horses in your province to-day that are not earning one cent virtually. Your timber is cut off, so you have nothing for them to do in that direction. You drive to town once in a while; you do a little teaming perhaps, but virtually they are idle, and you are feeding these horses at an expense of 10c. to 12c. a day, and all you get out of them is the manure, and even that is not all saved. Those horses will not be well prepared for doing next summer's work, for idleness, like all vicious habits, tends to pull down and not to build up. Friction makes growth, mentally, physically, morally. The world is constantly advancing, and you cannot stand still, or relatively still, or you will be left in the rear. Now I want to talk practically. What is to hinder you with all these brood mares in the province of Ontario that are doing nothing to-day from doing something in the raising of colts. Except the geldings, and here and there a horse that we want for driving purposes, or for a family horse or something of that sort, all other horses —the work-stock of the farm—are doing nothing. Now, the man that farms like that lacks the machine to save that ounce of solder. But he says, "I don't want the mare running next summer with a colt; I want it for work?" What is it doing in the winter? Why, the farmer's wife will have work and overwork all winter long, even if she has a baby at the breast, but the mare, she is idle! Let us think more about that mare. I want to speak here practically, and to ask this convention is it not an object to leave a cow behind you that will give a greater yield of cheese, or a horse that is better and capable of doing more work than what you started with! Those are the only saddles and vehicles by which we are to do what? To leave better men and women behind us. That is all in God's world we are here for. If we have not helped to make somebody's boy something nobler than ourselves we are no good to anybody. The devil don't want us, because he wants workers, and God does not want us because he has no need of those who will not work. There is no place left for those who will not work, search the heavens above and the earth beneath. I have diverged, but I want really to get at the root of the matter and then work back. Now, what is the trouble about making a mare give milk in winter? The same trouble that we meet with in making a cow give milk. The man making a cow give milk in winter has virtually all that he wants to make a mare raise colts. You dairymen, so long as you continue your present course of writing on the dairy "Closed six months for repairs; six hundred thousand cows on strike" will only be the poorer for it. Taking these brood mares, to make them profitable select those that are good. Send those that are poor to the shambles; let them go to the pasture for a time; let them go anywhere but on a farm that is worked for money. Then select. If for coach horses get a horse that stands up well, but those that breed that class generally know what they want. This address is for the plain farmer. The man who knows does not want any help. It is on breeding as an adjunct to dairy farming, so that we may be doing something besides breeding neat cattle. Now, select the style of horses you prefer—coach horses, saddle horses, plain business horses, just which you like. Breed to a point. No man can do anything in this world without an object—an object higher than anybody else around has aimed at. Serve that mare in the fall so that when October, November, December comes it will drop a colt in a box-stall in the barn. Now, make the mare give milk, that is the first thing, and add to the mother's milk something that shall be certain to keep the stomach and bowels of the colt in a proper condition, so that it will eat and digest. Don't raise any of those colts like spring colts you have seen running up and down the corn rows and working destruction, until you say it is cheaper to buy a horse than to raise one. Raise a good colt if it is possible; that is, use all the means at your command to raise a good one, and then you will have some poor ones in spite of all you can do. You have seen a colt so poor that you would not care to own it, and then it has been badly nourished and badly kept. Now, the worst thing you can feed such an animal is timothy hay. You are losing thousands of dollars by feeding that without anything else. Our farmers are just stuffing the mangers of those lazy horses with timothy hay without getting anything from it. As I told one of my brother farmers, it is just like taking in boarders and then paying their board. That is the conditions of things in New York as I see the condition of things, and I judge it is about the same here. Now, in the spring time when that mare is wanted for use on the farm, you can wean the colt. Can you tell me any time that is better than in the early summer when the grass is soft and succulent? If it is hard to wean colts then it is worse in the winter. That is what is the matter with their bowels when they are shedding their teeth, and they are kept back until horses that should have developed at five years do not develop until they are six or seven years old. Five hundred thousand dollars the farmers of Ontario are losing this winter through bad management in not raising colts. It won't interfere with the dairy work in the least to do this, and you can raise a horse that doesn't require dragging to get him out of the stable. Raise a horse that when you lead him out of the stable will sell. Now, I have in my stable two half-bred Percheron horses—and I suppose if they had been half blood Clyde it would be all the same—raised just as I tell you. I think, after the service of the horse, that they cost no more to raise up to five years than saddle horses. Two years ago a man came along and offered me $600 for them. Now, that is an unusual case, but such horses with you on the average will sell at $200 in your market to-day, and we are glad to buy them at that price. Those are not the only two, I have four more in the University stables. We are keeping nearly an animal to the acre, buying some feed of course. It does not interfere with the dairy, so they are machines to save that ounce of solder. Put in a $200 machine and save an ounce of solder. But here it means with the farmer pounds and pounds of dollars. Then if the horses crowd a little on the farm and you get over-stocked, I will tell you what to do: just kill that cow that has been running you in debt—throw the old machine away among the rubbish. Do anything with it but keep it, because it is just running you in debt. One-third of the cows in New York, and I do not hesitate to say one-third of the cows in Ontario, are running their owners in debt. It is like the old lady who bought eggs for sixpence and sold them for six cents, who, when asked how she did it, said she could not but she bought and sold so many. (Laughter.) Taking statistics I find this is about true in New York among those who have not felt the impetus of the agricultural improvement we are trying to introduce. That the first quarter of the cows are running their owners in debt every day they keep them; the next quarter are just holding their own; the third quarter are making enough to keep the first; and only the last quarter are making profit. You may test almost any dairy in the country and keep count and you will find that these are really about the exact facts. Now that is not saving that ounce of solder. That is the trouble with agriculture to-day—we have not got it down to that fine point that the people engaged in other industries have. Why, even the peanut men in Ithaca do business on a better principle than the Tompkins County farmers. (Laughter.) They make a profit, while many of the farmers are getting deeper and deeper into debt. It is not the fault of agriculture. This is the trouble it seems to me. With the day school and other advantages it costs twice as much to raise a boy as it used to, twice as much as it did to support his father. It takes four times as much to support me as it took to support my grandfather, and with modern appliances I can do six times as much, and I do not use my muscle so much as he did. I think I am hardly so good a man as my grandfather, yet this is the condition of things. Now, the boy ought to possess better education than his grandfather, and in order to have that we must give him those opportunities to gain knowledge by which he may acquire this and may be a skilled and well trained intellectual man that will do more than his grandfather did. I venture to think as I stand here before your convention that I live more in this hour than my grandfather did in a year in his log cabin. Let us have education. Then we are better than the animals, the cows and pigs of the field and we are ready to grapple with these great subjects of the hour. Now, these colts will grow up, and if you have a two horse farm, as they talk down in the South—a one mule farm, a two mule farm and a six mule farm—then buy two or three good brood mares. Don't kill them. Raise good colts in the winter and let them work in the summer time. At present we are raising colts in summer, and a poor horse gets crippled up and then the mare has to go out because the work must be done and there is no other horse, and we cannot hire one, and so we crowd it through until it wants a box under ground. Suppose you had another mare that earned her board by raising a colt in the winter and then again by her work in the summer, to slip in. Don't be afraid of John riding to town. Give him something worthy to tackle with. He wants a colt; he wants something to try his muscle; and he tackles the colts and breaks them, then when the time comes when you are old and decrepid and lazy, and you want that piece of oats in before the rain comes, lay your coat on the fence and go to work. Do anything to keep in touch, in sympathy, to keep everything going right; but do not make the boys work in the field beside the hired man six days in the week and then refuse to let them go to the 1st of July celebration and have a spree because the work is so pressing that you won't say they can take that day. A man ought to have gathered forces enough to do directing as well as work. A little simple thing, a little cause and influence will crowd that cow, that brings $24 a year, to the butcher's shop and relieve you of that abominable thing that has been draining you every year. How many of you dairymen have a record of your cows individually? You see by this horse question I am trying to crowd the cow which is running you in debt to the wall. You never crowd her there until you get a colt; then she has to go. I have seen this done over and over again and I know it is a success. Provide warm stables—make the mare raise good colts—and in addition to the mother's milk feed bran mashes and a little clover hay or timothy hay or straw. The colt will grow and thrive on it—a certain amount of it—and low and behold from one mare you should have in four years three good colts. What does a good horse, suitable for saddle work, sell for in London.

The President.—That will depend on circumstances. All the way from $100 to $300.

Prof. Roberts.—Surely this is an opening to some better use of our farms. I talked something like this at Watertown a year or two ago. This year, when I went down to that neighborhood, a man said to me that some ten or twelve of them went home after the meeting and selected good brood mares, studded the barns—put on rough boards, and stuffed the crevices with straw—and commenced raising colts, and that what I said did more good to set them thinking than anything else that could have happened.

Mr. Leitch.—The object is to have the mare drop a colt in the fall—October or November?

Prof. Roberts.—November or December the colt is dropped. Some of you may ask how you are to get the mare to breed in the fall? How do you raise summer colts? By watching for it in the spring, keeping the animal a little poor in the winter, and then early in the spring beginning to increase the flesh, and at the first opening of the warm weather she will receive the horse. You can tell the ninth day whether she is in foal, and you will all the time allow twenty days if she is not, before serving her again. The mare's time is 11 months, and hence you may commence to rear with a very early spring colt. That is the best we can do, and it is the same thing with getting them into colt in the fall.

Prof. ROBERTSON.—How do you feed the colts when weaning?

Prof. ROBERTS.—You wean them in the spring, when there are no flies? The best possible thing is dry bran. The grass is most succulent then. The colt will take two or three weeks to recover and begin to put on flesh. I may say we always feed our cows dry bran on the succulent pasture.

A VOICE.—Do you mix the bran with anything?

Prof. ROBERTS.—No, nothing. With all young animals, especially calves, if you feed concentrated food, always put it in a very large feeding box, and spread it there so that the animal cannot eat it fast, but is compelled to lick it. In this process it ensalivates its food, and you can feed young calves concentrated food in this way without injuring their bowels in the least. That is true to a certain extent when we feed oil-meal to older animals. I have had a manger made larger than the hay boxes for this purpose, so that they must eat it slowly. You know we used to throw a big stone in the oat box so that a horse could not gulp its oats down. With grown cattle it is not so much a question to get the food masticated as to get them to salivate it so that it may act energetically towards digestion.

Mr. HODSON.—I found it myself more profitable raising fall colts than spring ones. We generally plow with our mares late in the fall, and have them drop colts in November and December, and soon after commencing spring work wean them. I generally sold the colts when a year old. I found my colts brought $102 and $105, and $150 for the top. They were just good stiff Canadian bred colts—Clydesdale.

Prof. ROBERTS.—Do you consider, apart from the service, it cost more to raise a colt than a calf?

Mr. HODSON.—No, not apart from the service. I sold some this year. The cheapest brought $103 and the most expensive $127.

A VOICE.—How are you to have a colt dropped about the time you want it?

Prof. ROBERTS.—It is very seldom you cannot. You have to take the risk, that is all. If you feed the mare rightly the chances are ten to one that she will get in foal when you breed her first. Then by proper care and feeding, and by giving her feed properly balanced so that she may breed up a symmetrical colt—feeding not only flesh, but bone making material, there should not be much trouble in raising a good colt. Why, a great many people, you know, have not half learned how to feed a hog yet. They will give a sow such feed that when the spring comes the muscles are all as hard and rigid as a race horse's, and when she has the young it nearly kills her, and in desperation and anger she grabs a pig, and once getting a little taste of the blood all the litter is gone. There is no reason why people should not have domestic animals produce the young in the winter, and have them live just as certainly as they live themselves. One word more. I want to put this clincher for the young men. The old men can shut their ears. They are old now, but they have given us a grand inheritance and have made it possible for the young men to do greater things. I have been long a teacher, and I have studied this subject very closely; I have given it great thought. This is the road to success boiled down: Want something that is good, and just want it terribly bad. Go right for it with might and main. Decide that it is a worthy object and then go right along, along, along. And that is all the difference there is between John Do Little and John Get Along—two boys equal mentally. One wants it, just because he wants it, and he never gets it. The other wants it, and is going to have it, and he gets it. In nine cases out of ten if people see that you are worth something or other they give you something a good deal better. I can cite you—I was going to say hundreds of cases of men that started out in that way. Another thing, young men, do the things that are hard to do. Any one can raise a horse and sell it for $60, but it requires some skill, it is hard work, to raise four first-class colts in five years here in Canada that will bring you $150 apiece when three years old. You have got to try. That is worth trying. (Applause.)

THE HOG AS AN ADJUNCT TO DAIRYING.

Prof. ROBERTSON delivered an address on the above subject, for which see report of of Eastern Dairymen's Convention. The discussion which took place upon the address was as follows :

Mr. LEITCH.—Every place that I have been, and in my own factory, there is always a sediment left in the bottom of the tanks, and in the hot weather that causes the whey to turn sour. It is hard to say how much loss we sustain by letting that sour. Every dairyman knows there is a large quantity of sugar in the whey when it is sweet, and that is the first thing that will ferment. Is there any feeding value in that sour whey? Sweet whey is worth ten cents per hundred lbs. ; but I would not give two cents a hundred for sour whey. In that line we are losing hundreds of dollars. I contend we are feeding too many calves. My hogs are all sold, and I have the cash in my pocket, but the calves are still there. By feeding hogs we could just have double the money in the same time, and with more profit. In my own neighborhood I told my brother farmers they were raising too many calves, and then such poor miserable calves. At this time of the year you would not give $6 for them, whereas with hogs you get cash for them whenever the cold weather comes on.

Mr. FOSTER.—Which is the best feed, buttermilk from creameries or whey?

Prof. ROBERTSON.—Buttermilk fed with grain will produce 2½ times the pork per hundred pounds that whey will. I want to say that the point raised by Mr. Leitch was very well taken, indeed. When the feed is soured some of the sugar is turned into lactic acid ; but the point he made of most importance was this, that the tank should be clean, because when any sediment accumulates another kind of fermentation far worse starts up and brings into existence qualities which are fearfully poisonous. Such whey is worse than no whey at all. Keep the whey sweet and hogs will fatten well on it, but in this horrible, rotten stuff there is butyric acid and half a dozen other acids which are injurious. Insist on the man whose business it is to keep the whey tank keeping it clean.

Mr. FACEY.—I understood that you estimated the phosphates in the whey at eight cents a hundred. I would like to know how you can save that?

Prof. ROBERTSON.—I did not estimate the phosphates in the whey at that price. I would not like the idea to go abroad that I was willing to pay that much money for it. I said that if a man were paying $40 a ton for superphosphates that he would get, according to this valuation, as much as 6 cents per hundred pounds for whey in manurial value, mainly nitrogen and phosphoric acid. I think the best way of saving that is to litter the hog pens. I have practiced to some extent the breeding of pigs on open fields, and that is first rate for the fields ; it is not so good for the pigs.

Mr. POWER (Michigan).—I want to ask whether you feed without any mixture.

Prof. ROBERTSON.—It does not pay. I should add shorts, bran or a food rich in albuminoids. I have got the very best results from goose wheat. I found also good results from feeding green corn stalks and clover.

Mr. POWER.—I would like to know how you could have pure air and at the same time a warm nest for the pigs.

Prof. ROBERTSON.—In the winter if you have a dry litter of straw or sawdust the most of the filth will be absorbed, and it will not make the air foul. The best way is to sprinkle gypsum and that will absorb the escaping ammonia so that you have nearly five times the manurial value of the gypsum.

Mr. POWER.—I understand that it is necessary to have a warm place for the hogs to sleep in, in order that they may thrive well. How can this be done and at the same time have pure air? Of course every exhalation throws off carbonic acid gas and that has got to escape in order to have pure air.

Prof. Robertson.—You can get it away by ventilation. For men keeping 40 pigs it will pay to put a stove in the pigs's house. That is what some are now doing. For every dollar spent in stove and wood they save $10 in feeding, they say, and I believe they can. We intend to test that matter in ours at Guelph as soon as it is completed.

The President.—I see one gentleman I would like to hear tell how much profit he thinks he has realized besides his milk in the way he has done for some years. That is Mr. John Fulton.

Mr. Fulton—I keep 40 hogs. I always count that the cows are entitled to the credit of feeding one half of them.

The President.—But how much have you realised in addition to the profit from the factory?

Mr. Fulton.—I consider I get 20 hogs from the whey.

The President.—What weight on an average?

Mr. Fulton.—200 lbs. and over; never under.

A Voice.—To how many cows?

Mr. Fulton.—40 cows.

The President.—That would be $5 profit from the hog per cow.?

Mr. Fulton.—Yes.

Prof. Roberts.—In regard to the question that is left unanswered, Prof. Robertson will pardon me if I answer it I would like to say a word about the ventilation and the consumption of oxygen by the stove. We have a sort of notion sometimes that air does not get into a room unless we open a door or a window. Did you ever see a house built so tight that when there was a stove put in and the fire started it did not draw? Now if it draws the air gets out and by-and-bye air comes in somewhere, because the moment it began to form a vacuum, fresh air rushed in or the stove would not draw. So with a stove in a piggery. When there is a danger of carbonic acid gas, a stove is the best ventilator we could have. There is nothing so good as a good strong burning stove that takes the oxygen and carbonic acid gas out at the pipe and away it goes. Fresh air gets in some way. The best way to ventilate a cow stable is to bring the air in in homœpathic doses so as not to bring in a draught. As an old professor I don't want great "gobs" of raw air coming in through an open window.

A Voice.—Can a hog be fed profitably on clover and roots?

Prof. Robertson.—I don't think that roots alone make good feed for pigs. Something more substantial than clover should be fed with them. Pea, barley or oat chop would be excellent. I have known hogs to be wintered on mangels and turnips with hardly any grain, but they were so shaky in the spring that it was six weeks or more before they would thrive.

Prof. Roberts.—In your experience wasn't the great trouble to keep the hog-pen from being ventilated too much? (Laughter.)

Prof. Robertson.—Well, that has been my experience.

Mr. Howard.—Would you prefer feeding the whey at the factory or sending it home in the cans.

Prof. Robertson.—I am down for an address on that same subject Friday morning; still, I put it simply this way: If I wanted to get the most out of the whey in pork I would have it fed where it could be fed sweet, and I would not have it fed very near the factory. It should be fed as sweet as possible, and as it cannot be sweet very long, it should be fed as soon after leaving the vats as possible. Let each patron contribute hogs to one of the pens on a farm near the factory if they cannot manage that themselves.

CHEESE FROM GASSY CURD.

The PRESIDENT.—There has been some cheese manufactured by different makers under different conditions. It will be here to-morrow, and it has been requested that a committee be appointed to examine and report upon it. I therefore nominate as a committee Messrs. Ballantyne, McLaren, Podmore, Riley and myself.

Mr. JOHN ROBERTSON.—I think we should get some little more information about the testing of the cheese that is to be presented to the meeting to-morrow. I do not know what points may be brought up, only let us discuss here the different ways of handling gassy curds. If the cheese-makers knew that was to be one of the particular points of discussion to-morrow they might be thinking it over before going to bed, and there might be quite a variety of ideas brought out.

The PRESIDENT.—Would you be kind enough to tell us what points may be brought out?

Mr. ROBERTSON.—I could not tell you all the points. There were three or four different makers, and I suppose they had different ways of handling the curd. We will not be able to get all the points until we get them together.

The PRESIDENT.—You should be able to tell some of them to-night.

Mr. ROBERTSON.—There are five different cheese made by five different makers, and there are a good many makers here that have probably handled gassy curds in a different way from any of these, and I think if they were prepared to present their views at the meeting here, that is where the benefit is going to come in.

The PRESIDENT.—I think we cannot do better than ask Mr. Robertson to come on this platform and give his experience and explain.

The question being put to the meeting, it was decided to hear Mr. Robertson.

Mr. ROBERTSON (London).—I do not intend to go into this question to-night at all. I may give you just a little outline as to how this was brought about and the purpose of bringing it before the meeting, but to begin to give you anything at all like a description of how I would handle gassy curds I think would be altogether premature. There is quite a practical committee appointed to examine the cheese and report on it, and what I might say to-night might not be borne out by their report, and it would put me in rather an awkward position. I would rather have the report without it being known who have made the cheese or how they were made. At one time during the summer I went to a factory and said: "I want to run one vat to-day," and it turned out, as the maker would tell you, that it was the prettiest gassy curd that day he had ever seen. One of the curds was in one of its stages just like a piece of bread taken out of the oven. There were another one or two not quite so gassy, but all were more or less tainted. Now, you are not to suppose the cheese when they are brought before you are going to be fancy quality; the object was to try and do the best that could be done with gassy curds. In good weather any one can make good cheese. That is what the Professor mentioned when he advised us to do a hard thing, and we want that committee to-morrow to give us their opinion as to whether they think we have been in any way successful in doing that or not. I may say this to bring in a little amount of evidence: the day I was in the factory Robert Ballantyne happened to come in on his rounds and I let him see the state the curd was in at the time, and he admitted it was a pretty gassy curd, and he will be able to testify whether a difficult thing has been very satisfactorily carried out.

The PRESIDENT.—I thought you intended to tell the cause of gassy curds.

Mr. ROBERTSON.—It is a very hard thing to define what is the cause of gassy curds. I was in a man's stable where there were twenty-four head of cattle, and all the means of ventilation was one little window. If I had twenty-four cows in such a place I would be afraid twenty-four hours would sicken them all. What should I do? you ask. Cut two or three holes in the ceiling. That set me to thinking, and in thinking the matter of tainted milk came up. I believe this, that cows that are kept in an ill-ventilated house will give tainted milk. I have been examining butter that came into the town, and have found that taint in lots of it that you feel strike your nostrils when you go into an ill-ventilated stable. I have begun to look into the effect of impure air on the system, and I find that it is about the best way to poison either a cow or a man slowly that you could think of. By the circulation of the blood through the lungs it is purified if the air is pure. In inhaling the air, if it is pure, the blood absorbs the oxygen, and that is carried into the cow's system, and helps to purify the whole blood that goes through the system. It also serves another purpose; it mixes with the unused material in the system and throws it off. You know if a man eats anything of a strong flavor, leeks or tobacco, and you go very near him, it comes out with the breath. It is easy seeing how these things get into milk through such critical and invisible means and generate there, so that unless you are very particular and examine very closely you would be at a loss to know how it occurs. I believe a great many gassy curds first arise from some of these causes, poor feed or impure air, and it takes considerable time before the system can throw these off, and the system becomes so tainted that, when the cows are milked every twelve hours, the system has not time to throw it off. Another thing that struck me was this: in milking cows myself I noticed the very same kind of a flavor coming from the milk pail that you would find at the cow's head. Something impure had been given to the cow, and the same odor was coming from the head and from the udder. So that the circulation of the blood and the air she is breathing have nearly all to do with the purity or impurity of the milk that she is giving. I believe it is owing to some cause of that kind that tainted milk and gassy curds arise. There may be other causes.

Mr. Leitch.—In the cool nights last summer we had more difficulty than in the warm ones, and we could not account for it unless it was that the milk was set too soon. Is there any means of ripening the milk, and it would be interesting to know what test they used to know when it is sufficiently ripe to add the rennet.

Mr. Robertson.—On a cool night tainted milk is generally caused by carelessness. A man will say: "It is a cool night, and the milk won't go wrong to-night," and he will not air it, whereas he will on a warm night. The milk is warm when it is drawn from the cow. The colder the night is the quicker a certain portion of the cream will rise to the top, and as soon as there is a little on the top the can is sealed for the night and all the taint is closed in, and it is just left to be moved in the morning, whereas on a warm night it would have been aired properly and the taint allowed to escape.

Mr. Leitch.—We found more difficulty when the weather was cool. I was talking to a certain cheese-maker last summer, and he said he thought the difficulty was to know the proper time to set and the proper time to add the rennet. If we could find some means of ripening up the milk and testing it, so we could be sure when the proper point was reached, we might be able to get rid of this porous cheese.

Mr. Robertson.—That is just what these experiments have been intended to do—to throw light on this. Milk simply requires a certain amount of time under certain temperature to bring it to any stage you like. Every cheese-maker ought to be able to know when his own milk is ready and the curd is ready. It does not matter very much how a man reaches certain points if he just gets the right condition.

Mr. J. E. Hopkins.—I believe there is no more essential point than to get the milk in the right condition for the application of the rennet. Last summer I would go into a factory and say, "Well, how are you getting on?" One man would answer, "I don't get the curd to press until 10 or 12 o'clock," and some of them said 1 o'clock, at night. These are great mistakes, and the mistake was in setting the milk too soon and not maturing to the right condition. There are old makers that cannot tell very closely the proper time to set the milk. It needs close attention, close observation, to get the right time to set it. There is a flavor that indicates just the time. Before the acid flavor comes on is the time to apply the rennet. You cannot always strike this flavor, and you may sometimes be deceived by the condition of the flavors, because milk has not always got the same flavor. There are many cannot tell the right time when to set the milk. In these cases I have advised them to use the rennet test, and those that have tried it have found it to work well and made a great improvement. With respect to gassy curds, I say the trouble is with the patrons, and until we get them to pay better attention to their milk we will always be troubled in this way. I find a majority of people milk in the dirtiest places, and keep their milk where it is subject to objectionable odors from the barnyard. If you factory men, instead of attending to some minor things you have on hand, would look after this, and even appoint a committee of sensible men to insist that the patrons should keep their milk in pure air you would have better results. If I was troubled with gassy curds I would mature my milk a little longer than I would do otherwise. You will have better cheese. (Applause.)

Mr. Lane.—I have had a little experience in the line Mr. Robertson has given us to-night, and I think possibly that a great deal more trouble arises from cows breathing a bad atmosphere than anything else. One of my neighbors made some butter last fall and the family could not eat it. I said, "What are you feeding your cows?" He said, "Turnips." I said, "How do you feed them?" "Just as you told me," he said; "after milking." "Well," I said, "if you had done so it would not create that." We talked on until I found the passage was "chuck" full of turnips, and the cows at the stake were breathing the odor from those turnips.

Mr. Robertson.—What led me to think it over a little more closely was, two years ago a man wanted me to go and see his cheese, and I went and enquired and found that he had done all that a man could reasonably expect him to do, and his cheese were badly tainted. I said to him, "Examine your milk carefully, and if you can locate tainted milk on any particular route then get a couple of directors and go and examine every farm on that route." Well, the maker made his own rennet, and they thought it was not right and that this was the cause. I said no, because if so the cheese would be all alike. One vat about every day was altogether astray, and the maker did pay particular attention two or three days and located two kinds of milk on a particular route that were bad. He then got two directors and they went over this route and on one farm found two carcasses—dead cattle—in the bush near where the milch cows were grazing every day. The manager said to me, "There were one or two days that we missed the taint, could you account for that?" I said, "Supposing that the dead cattle were lying on the south side of the farm and the wind was from the north it would miss that day because the wind was carrying the smell away from his stock. If the wind was blowing towards them then they would be sure to absorb the impure air." And that was quite enough to taint the system, to taint the milk and produce all the evil it did, and what proved it to be so was because the cattle were buried, and lime scattered over the place, and in a little while the milk was perfectly good.

The Convention adjourned at 10.35.

SECOND DAY—MORNING SESSION.

The Convention resumed at 10 o'clock a.m.

The President.—I would say the Secretary will be here through all the meetings and at the Tecumseh House when we are away from the Hall, and will be pleased to take the names of factory owners requiring assistants, and also the names of makers and assistants who want a place.

The Secretary informs me that some factories that have had the instructors have not paid in their subscriptions, and he will be glad if all such will do so while this Convention is in progress.

There were two things struck me last night when Mr. Robertson was speaking about the cause of floating curds, or tainted milk, that were left out. In the first place, one cause is a most disgusting habit that the farmers have in Ontario, and always have had, especially in the early spring and through the summer. It is unpleasant and must be repulsive to your families. The girls and boys and your wives have to go to the barnyard, and what do they see there? They see the carcasses of "deacons" that have been partly eaten by the hogs, and are rotting and reeking in the yards. I think every cheese maker should draw the attention of the farmers to it, and have that cause done away with. Another cause is the leakages and soakages at the factories from the make-rooms and from the whey tanks. In many cases you will find there are droppings that will soak into the ground. It is a nuisance to the public passing by, and no doubt the whey in that way does a great deal of injury to the milk after it gets to the factory. I think that ought to be done away with.

Mr. Lane.—I think there are many other things that cause bad odors that could be remedied. I have thought this thing over a great deal. In many places you will see the whey trough stands right beside the milk stand, and the hogs are there, the milk is there and the whey is there, and they are all there together. I do not think it is any wonder when the milk gets to the factory next morning that it is tainted. Then frequently you can smell milking yards half a mile before you get into them. These things should be kept clean. I think the remedy lies in this way: We have a Board of Health now in every municipality, and if this state of things is made known to the Board of Health I think it belongs to them to attend to it, and they can force people who are responsible for such nuisances to remove them. There is no doubt we have got to get rid of all these things before we are going to have good, first-class cheese all round. I think the owners of factories should pay attention to these things and see that all the surroundings are clean and sweet.

The President.—I would like to ask if you have not seen these "deacons" lying around the barnyard. I believe it is one of the greatest nuisances, and I hope there will be a resolution passed referring to this by the Committee on Resolutions.

Mr. Page.—Do you think that as offensive on the whole as feeding the pigs under the very stand where they keep the milk?

The President.—In answer to Mr. Page, I think both of them are bad and should be done away with.

The President.—The worst thing I have seen is putting two quarts of water in the whey can and calling that cleaning and scalding it. That is the worst fault I have seen about a whey stand. (Applause.) There is no doubt that the droppings from the hogs, with the leakings from the whey stand, will make a great nuisance. We will never be right until every patron does away with everything that will taint the milk. Every patron should have interest enough in a factory to see that he has done justice by the directors. I hope that matter will be taken up in the interest of cheese makers and of the cheese trade of Canada. There is also a tendency now to hire cheap cheese makers. Cutting down wages is the poorest way to try to save money. (Applause.)

PLANTS AND ANIMALS.

Prof. Roberts, introducing a paper on the above subject, said: At great expense—and it was no pastime either—I have been making some important investigations this summer. Before I begin my address I want to ask one or two questions. What are we here for? Some one will answer me, to learn. Quite right, but it doesn't matter a bit how much a man knows if he fails to put his knowledge into execution; it must materialize. The farmers of New York to-day are producing but little more, and no better, milk than I produced on my father's farm unaided when I was a boy of 14 years. Now, it is utter nonsense for me to stand here this morning and talk unless I drop something of value that you will not fail to take home and put into practice. If you simply let it go, then it is of no value to you; and so I fear that many of us come up annually to these conventions, and, as the Chinaman says, we "talkee, talkee," and we go home and we don't "doee, doee." (Laughter.) I don't believe that we have gained, in some portions of the States, one pound of butter per cow in the last 20 years. How much have you increased the annual average production of the cows of Ontario since I first came to you 15 or 16 years ago? Have you doubled it? You have doubled the capacity of your railroads, you have doubled the number of steam engines that are plying in your midst, you have doubled everything else. I do not want the dairymen to come back next year with no better record than they give for the past. To concentrate these preliminary remarks, I say we must be doers of the word as well as hearers of it. I want to ask this question and leave it unanswered: What do you keep a cow for? Some men keep a cow to look at in their fields, and it is no matter whether they get one quart of milk or three from her; some only keep a cow to reproduce its species; some to make manure; and others, apparently, to get clear of the timothy hay in their barns. (Laughter.) The paper is as follows:

THE PLANT.

We are taught that no animal can take its food directly from the soil. The elements which sustain its life must be changed, or enter into new combinations, and this great office is performed by the living plant. Then no animal can exist without plant life preceding it. If this is so—and we have no reason to doubt it—the question of how to raise a plant becomes most important. How careless we are in selecting the plants best adapted to our soil and climate. We would do well to study them with more discrimination. Nature never plants cat-tail flags on a gravelly hill top, yet I have known men try to raise celery in a sand bank. A man in one of our leading agricultural journals wants directions as to how he may raise walnut trees on a sandy piece of land. He may partially succeed if he has patience and a large bank account. Without being sacriligious let me say if he fully succeeds he will do better than the Lord ever did. Nature raises walnut trees in the black, rich river and creek bottoms.

The habits of plants are more varied than those of animals or men. We succeed best when we work in harmony with Nature's laws and not against them. Nature sows seeds sparsely where plants grow tall and liberally where they grow short. Yet I have known intelligent farmers to sow fodder corn as thickly as we sow wheat. Although they have raised corn all their lives they have failed to learn that this Indian plant is a child of the sun. In order to get some definite knowledge to guide us in the cultivation of corn for ensilaging and for fall feeding a series of experiments were conducted at our station during the last summer. The varieties planted were Sibley's Pride of the North and eight-rowed Flint, sometimes called Canada or New York Flint. The ground was somewhat gravelly on the surface with a sub soil in many places of pure gravel and sand which in places came to within two or three feet of the surface. The soil in one respect was well adapted to corn, being warm and light. In other respects it was illy adapted because of the sub-soil which permitted the water to escape leaving the plant to suffer for want of moisture during dry hot periods. The land was moderately fertile and of a character that gives fair crops every year but never large ones. The crop immediately preceding was clover and timothy. The plots contained one-tenth of an acre each.

The season of 1888 had been unfavorable for the largest growth of the corn plant. A cold spring and a drouth in the latter part of July and August arrested to some extent the development of both stalk and ear. The plots were one-tenth acre in area, and were ensilaged and sampled September 10th.

The yield of the various plots is shown in the following table:

TABLE I.

Plot.	Mode of culture.	Yield lb. per acre.	Per cent. water.	Dry matter lb. per acre.	Per centage yield.
	SIBLEY'S PRIDE OF THE NORTH.				
1	Hills 3x3 ft.	20610	78.50	4431.3	86.9
6	Hills 3x3 ft.	21370			
2	Drills 3 ft. apart	24555	78.45	5291.6	100.
5	Drills 3 ft. apart	23760			
4	Broadcast, no cultivation	14535	78.02	3196.	60.2
3	Broadcast, harrowed	17065	79.56	3488.	70.6
	EIGHT-ROWED FLINT.				
7	Listed, hills 3x3 ft.	19705	79.45	4049.5	81.6
8	Planted, hills 3x3 ft.	18195	77.21	4099.3	75.3

A study of the above table shows that, taking the corn planted in drills as a standard, there was a falling off in the yield of green corn of 13 per cent. in the case of the corn planted in hills; 40 per cent. in the case of the corn sown broadcast and not cultivated; and 29 per cent. in the case of corn sown broadcast and afterward harrowed. There was also a difference of 10 per cent. in favor of Sibley's Pride of the North (a Dent variety), as compared with the plot of eight-rowed Flint receiving the same treatment.

Samples from each plot, except Nos. 5 and 6, were analysed in the chemical laboratory and show a still greater advantage in favor of planting in hills and drills, in that the corn from these plots was considerably richer (nearly 3 per cent. in the dry matter) in the valuable protein or muscle forming compounds. Table II. shows the results of these analyses:

TABLE II.

Plot.	Mode of culture.	Pounds dry matter per acre.	Protein per cent. in dry matter.	Fat per cent. in dry matter.	Carbhydrates per cent. in dry matter.	Protein lbs. per acre.	Fat lb. per acre.	Carbhydrates lb. per acre.
1	Hills	4431.3	10.06	2.18	83.72	445.8	96.6	3709.9
2	Drills	5291.6	10.00	2.10	83.71	529.2	111.1	4429.6
4	Broadcast	3196.0	7.19	2.41	83.48	229.8	77.0	2668.0
3	Broadcast, harrowed	3488.0	7.56	1.64	86.03	263.7	57.2	3001.3
*7	Listed	4049.5	13.12	2.45	76.32	531.3	99.2	3090.6
*8	Planted	4099.3	10.00	2.66	81.97	409.9	109.0	3360.2

Since the various classes of nutrients are of unequal value, if we wish to determine the value of the food produced on an acre under each system of treatment, we must assign a given value to each class of nutrients, in order to determine the value of the crop grown on each plot. The Germans, on the basis of a large number of analyses and feeding experiments, estimate that digestible protein and digestible fat are each worth 4½ cents per pound, and that digestible carb-hydrates are worth .9 cents per pound.

Undoubtedly these figures are too high for American values. However, they are just as valuable as a means of comparison; but that no false impression may be conveyed, the value of each plot has been reduced to conform to a standard of timothy hay yielding 1½ tons per acre, worth $12 per ton. That is if timothy hay is worth $12 per ton, the fodder corn produced under the different systems of culture was worth, per acre, the amount set opposite the respective plot in the last column of the following table:

TABLE III.

Plot.	Mode of culture.	Yield lb. per acre.	Dry matter lb. per acre.	Value per acre in comparison with timothy hay at $12 per ton.
	Timothy Hay	3000	2595.0	$18 00
1	Hills	20610	4431.3	30 08
2	Drills	24555	5291.6	35 74
4	Broadcast	14535	3196.0	19 72
3	Broadcast, harrowed	17065	3488.0	21 64
*7	Listed	19705	4049.5	29 15
*8	Planted	18195	4099.3	27 88

The results of Table III, graphically arranged, will be found in fig. 1 to 3.

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* Eight-rowed Flint, the others Sibley's Pride of the North.

BEST PERIOD FOR CUTTING.

For this test, from a field of Sibley's Pride of the North corn planted in hills, fair average hills were selected at different times, cut and weighed and a sample sent to the laboratory for analysis. At the same time a number of hills sufficient to give a fair average of the yield per acre were also cut and weighed. In this way both the yield per acre and the quality were ascertained. The corn was planted on May 7th, the first cutting was made on July 24th, at which time the plants were just coming into bloom. The second cutting was made on August 8th, when corn was hardly in roasting ear condition. The third cutting was made September 3rd at which time the majority of the ears were out of the milk, and in one week's time the adjoining corn was ready to cut and shock. Below are given the results.

TABLE IV.

Period.	Date of cutting.	Yield pounds per acre.	Per cent. water.	Dry matter pounds per acre.	Protein lbs. per acre.	Fat lbs. per acre.	Carb-hydrates lbs. per acre.
I.......	July 24..........	18762	89.34	2000.0	250.6	42.00	1543.6
II......	Aug. 8..........	24578	83.57	4039.0	368.4	41.99	3328.9
III.....	Sept. 3..........	27674	73.93	7214.2	585.8	199.10	6166.7

It will at once be seen that the most marked difference in the composition of the fodder cut at the different periods consists in the constant and rapid decrease in the amount of water. While the gross yield increased only 50 per cent. from July 24 to Sept. 3, the amount of dry matter increased more than 350 per cent. As to the relations of the different nutrients, while the total amount of each increased as the corn approached maturity, the percentages did not remain at all constant with the single exception of the fat. The percentage of protein decreased from 12.53 per cent in the first period to 8.12 per cent. in the third. But the total number of pounds of protein per acre increased during the same time from 250 to 585 and the fat from 42 to 200 owing to the large increase of the dry matter. The proportion of nitrogen in the less valuable form of the amides constantly decreased as the corn approached maturity; in Period I. it amounted to .61 per cent., in Period II. it fell to .28 per cent. and in Period III. to .22 per cent. The percentage of carb-hydrates increased from 77.18 per cent. in the first period to 85.48 per cent. in the third. Applying now the same standard of values that we used in comparing the different methods of cultivation we have the following as the value per acre of the crop at each period of cutting, in comparison with timothy hay as before.

TABLE V.

Period.	Date of cutting.	Total yield pounds per acre.	Dry matter pounds per acre.	Feeding value in comparison with tim. hay at $12 per ton.
	Timothy hay	3000	2595.0	$18 00
I..........	July 24..............................	18762	2000.0	14 05
II.........	August 8	24578	4039.0	26 16
III	September 3.........................	27674	7214.2	47 33

From the above facts it will be seen, that the real feeding value of the corn increased 166 per cent. after it had tasseled out and 80 per cent after it had nearly reached the roasting ear stage. This being so, the greatest care should be taken to select those varieties of corn intended for silage, that will fully mature before frost in the localities where it is proposed to grow them. A less number of tons of mature corn being in all cases more valuable than a much larger number of tons of immature corn. As making a better illustration we have arranged table V graphically in fig. 4 to 6.

FIG. 1.

Weight of Green Fodder per acre. Each inch in length represents a yield of 5000 pounds per acre.

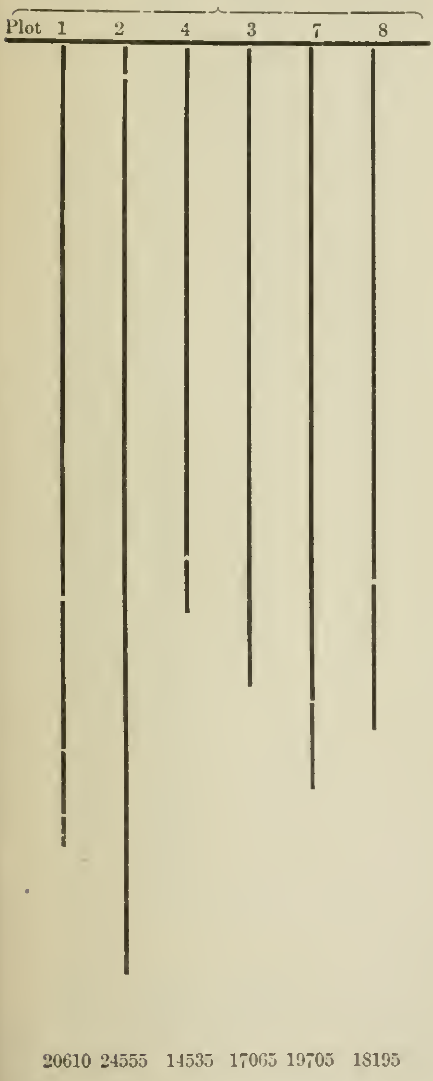


FIG. 2.

Weight of Dry Matter per acre. Each inch in length represents 1000 pounds per acre.

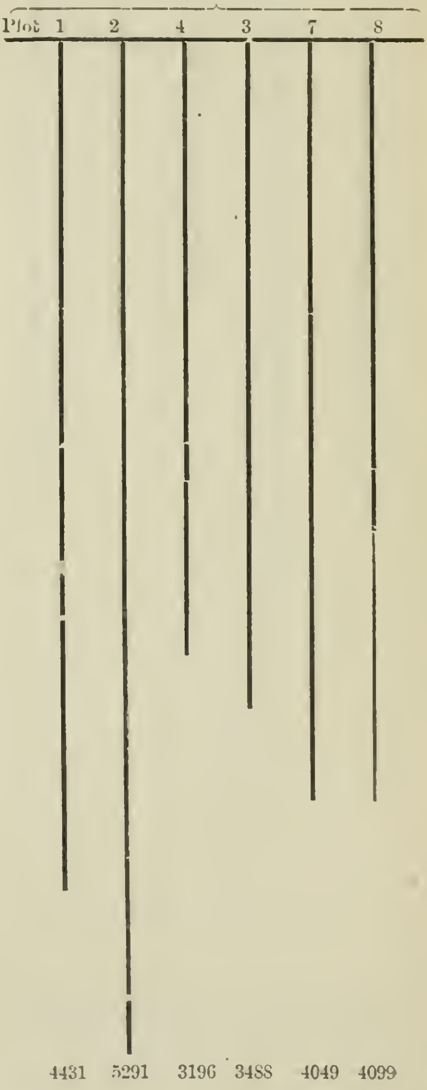


FIG. 3.

Value of Fodder per acre. Each inch in length represents ten dollars.

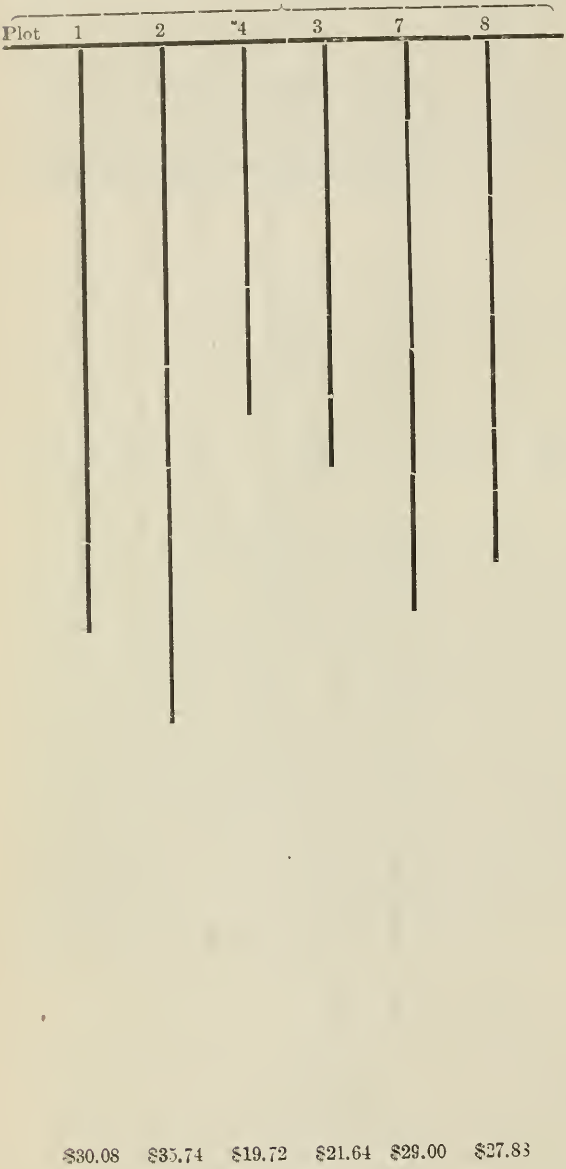


FIG. 4.

Weight of Green Fodder per acre. Each inch in length represents a yield of 5000 pounds per acre.

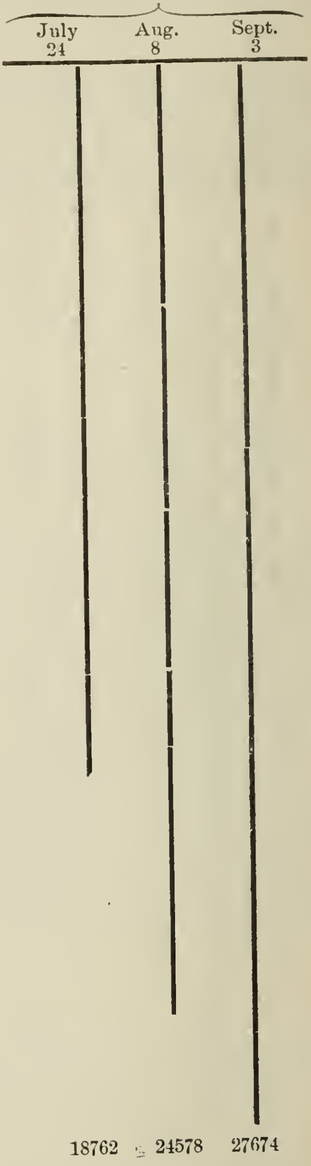


Fig. 5.

Weight of Dry Matter per Acre. Each inch in length represents 2000 pounds per acre.

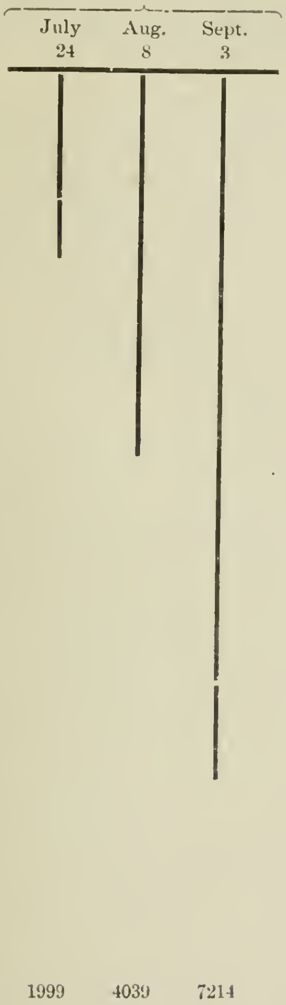
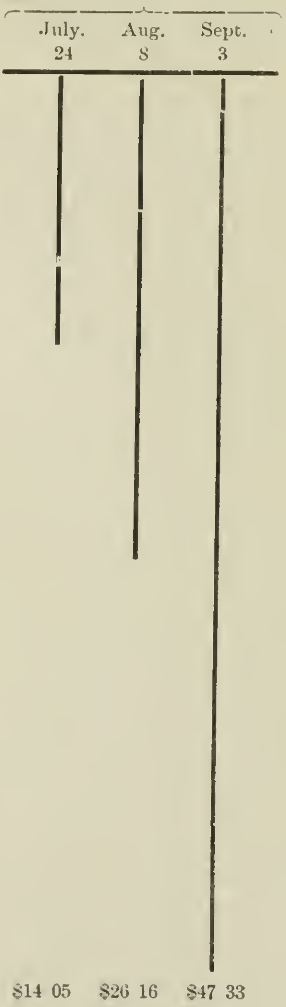


Fig. 6.

Value of fodder per acre. Each inch in length represents ten dollars.



The Animal.

Having made a study of the plant we have still a more complex subject to investigate. So much depends on the inherited qualities of the animal, so much on the kind and quantities of food, so much on comfort, and so much on the thousand and one petty details which add much to the final results that life seems too short to master all these combinations of forces. If the animal has little capacity no amount of skill in feeding will bring success. If the food is meagre and badly balanced no amount of fine inherited qualities will save from failure. So it is not profitable to discuss whether breed or feed adds most to final production, as neither is complete or remunerative without the other. As no miracle is ever performed in these days, and as life only comes from life, and as effect is only produced by cause, therefore we can never have a really good cow without her having some good ancestors. Her valuable qualities may be improved and made available by judicious feeding and care. But superiority never comes in a single generation if all that has gone before has been inferior. Then, too, valuable qualities which have recently appeared being the product of small improvements in each generation are the first to disappear under adverse conditions, while those qualities which have been the longest inherited are likely to be most permanent. In these few lines I have tried to concentrate all the fundamental principles of breeding and improving the dairy cow.

The science of feeding is of no less importance than breeding. In a recent number of the *New England Homestead*, a reliable paper of wide circulation, I find the following: "In 1883 there were over 13,000,000 milch cows in the United States. Their average production was very low. The average in the New England States is higher than in the others, but this is not much to feel proud of. New England cows give 1,416 quarts of milk in a year, or an average of 87.7 lbs. of butter and 7 lbs. of cheese per animal. This, at 25 cents for butter and 12 cents for cheese gives a total income of $22.76 per cow." The writer from which the above was quoted says: "It does not appear that we have improved in feeding cows and that we are where we were fifty years ago." It is true that there are many isolated herds and breeds which have undergone great change for the better, but the figures above quoted come from the general statistics and embrace the very poor with the good. These figures indicate that the shrewd economical New Englander has something yet to learn in breeding and feeding.

After many years of careful research and observation I have come to the following conclusions: That dairying should be conducted throughout the entire year. That in the long run it is better to raise cows than to purchase them. That inheritance has so much to do with capacity that every dairy cow should have an improved and well-bred sire. That food has more to do with quality and quantity combined than any other one factor when given fair conditions. That a narrow ration, or one having a high percentage of albuminoids tends slightly to diminish the quality of the butter, but increases the quantity, provided the animal is kept in warm and comfortable quarters. That a wide ration of suitable food, that is one with a high per cent. of easily digestible carbhydrates, improves the quality of the butter and tends to develop fat in the animal, if it is kept in warm quarters, but if exposed in cold quarters then a ration highly carbonaceous will be found the best, as it is necessary to preserve the normal heat of the animal before any surplus product can be formed. That fully double as much food for the dairy can be raised under like conditions of fertility from an acre of corn, or rye, or of alfalfa as from an acre of timothy, orchard grass, or blue grass. That whether the first named forage plants can be raised, secured and fed more cheaply for each 1,000 lbs. of available dry matter depends largely upon various conditions—such as price of land, labor and distance from the farm buildings, but in a great majority of cases the first named products will give better results than the last named ones. That well nourished plants give a more valuable product, pound for pound, than partially starved or immature ones, and finally that care and judgment in feeding and milking and attention to the comforts of the animal all play such an important part in the final result that combined they may be accounted the final great factor. Though success may appear to be complete when the animal and plant are brought together in the barn all may be lost by the ignorance or carelessness of a few persons who have never learned that no improvement can be made in men or animals without improved food served up in an appetizing manner.

Mr. BALLANTYNE.—May I ask how did you test the feeding value of the corn at the different stages of growth?

Prof. ROBERTS.—Three men first went to a large field and cut three average hills, each man working separately. They brought them out, weighed them, and then I sent a man and team to cut one hundred hills for comparison. Twice we came within an ounce of getting average hills, and the third hill varied about four ounces. Then we analyzed these average hills and put a value to the corn, timothy hay at $12 per ton being the unit of computation. So if timothy hay was worth $12 a ton then the corn was worth the amount that I have shewn in the tables.

Mr. POWER.—Have you made any experiments to determine the manurial value?

Prof. ROBERTS.—No sir. We are now making experiments to see how much of this silage will actually be digested and whether it is more digestible than timothy hay. From the resultant after this digestion we shall be able to determine the manurial value.

Mr. POWER.—This corn was raised for silage?

Prof. ROBERTS.—Yes, or for husking. We have simply grown and analyzed the corn up to the fairly ripened stage, and this is the feeding value we get. If we raise corn for feeding the question is, shall we cut and husk it, or shall we put it in the silo? We put in the silo about 600 bushels of corn, cut up, with the stalk. Notice, the stalk is yet green, but the ear is matured, so that the most of it could be hung up, and would make the best of feeding corn. That saves husking and grinding.

Mr JOHN ROBERTSON (London).—You said it was your impression there was a mistake made in growing too large corn. In this neighborhood for the last year or two the farmers have looked for large corn. Have you mentioned whether you tested the B. and W. corn? The large corn we have had here has raised 26 to 30 tons an acre. There are other kinds that would not probably produce 18 or 20 that might be really more valuable according to your statement. I saw myself this year corn stalks growing that were 14 feet high, and there was an enormous crop.

Prof. ROBERTS.—It would have been a great amount of work to harvest that crop.

Mr. ROBERTSON.—A great amount of work to harvest and a great amount of work for the cow to get the nourishment out of it afterwards.

Prof. ROBERTS.—These experiments show what I have known for a great many years, but had no definite figures to prove. I have known from observation and practice that unripe Indian corn, when it is beginning to tassel, is worth only about one-half as much as corn that is matured. This experiment was as to the method of growing and the time of cutting. Next year we will test the varieties. I believe no man can afford to plant corn that will not get well matured before frost strikes it. Corn is a sun plant and the last days of its life are its best days. More than that, no man can afford to raise corn without his soil being such as to raise the most bushels of corn. I believe that one ear is worth four stalks, and that much of the corn fed is so immature and watery that the expense of handling it takes away a large proportion of the profits derived from feeding. I would give very little for the sowed corn all through our country this year. It failed to tassel out properly. The B. and W. corn that they grow in Ohio is splendid, but here we are too far north to raise it. Sow the largest variety of corn that will mature in your locality, in hills or drills, and let it ripen so that the seed will grow if planted, then put it in the silo and feed the silage with nitrogenous foods. Plant strong seeds, plant very early, on as dry land as you can if for the silo; and plant as near the top of the ground as may be at that early period of the season. We planted one piece of high land the last day of April. When you have to plant later, or the soil is dry, plant deeper.

Mr. LANE.—Did we understand you to say three stalks in the hill? Would you prefer that to having the three grains distributed in drills at certain distances?

Prof. ROBERTS.—In my experiment there are exactly the same number of stalks in the field where the corn was drilled as in the field where it was in hills. Now, it is only a matter of skill in freeing the land of weeds whether you can get 24,000 lbs. in drills instead of 20,000 lbs. in hills. I may say all those western varieties of corn have the habit of rooting deep, and are more vigorous and stand the drouth better than our native corns.

Mr. LEITCH.—I would like to ask Prof. Roberts if he would take the ears off before putting in the silo?

Prof. Roberts.—No. I do not believe it will pay 25 cents a day to handle the corn that way if you have cattle. The easiest, nicest and best way is to cut it all, corn and stalk, into the silo and let it heat up.

Mr. Leitch.—Would it not mould or destroy the grain?

Prof. Roberts.—No sir, not if the silo is kept right. I want to call your attention once more to the three lines shown in figure 6, which gives the value of corn at its different stages of growth. There is no use spending $300 or $400 raising ensilage corn and then lose three-quarters of its value by cutting at the wrong time. Test these things for yourselves. May be our conditions and surroundings are a little different from yours. Vary your methods to suit your conditions, and if I ever come back to you again tell me whether these three lines have been of any value.

Mr. Power.—We understand you to say these ripe ears come out of the silo in a more digestible condition than they go in?

Prof. Roberts.—Yes, from the fact that they have been brought up from a temperature of 60 degrees to one of 130 degrees. They are put through a steaming process and the woody matter is broken down. It has done something towards assisting the animal in the process of digestion.

Mr. Power.—Is there anything lost in the way of nutrition in this ripening process in the silo?

Prof. Roberts.—Yes, sir. All the heat that is generated in the silo to cook it—that is all the heat that is generated to bring this mass up to 120 or 130 degrees—is generated out of this food. That is some of the carbhydrates have been burnt up. If you leave the corn in the field there is a loss, but it is mostly nitrogeneous matter that is wasted there. One thought more: the bacteria that cause mould are killed by the heat, and we seal up the silage to prevent the entrance of more bacteria-laden air.

Mr. Ballantyne.—Before leaving that part of the subject I desire to say one or two words on it. Much has been done to get farmers to sow corn, but it has been of the very large and late varieties. I may say none of it matures, at least reaches that stage of maturity which contains the highest nutritive value, and it is a matter of the utmost importance if we are getting nothing for all the extra labor of handling three tons if we might have had the same value in one ton in the state when it reached the greatest nutriment. Now, corroborative of what Prof. Roberts says, I remember in conversation with a gentleman who is here—a shrewd, intelligent farmer—his mentioning to me that he was feeding his cows on the ordinary corn, and he changed to the western corn, which was used in the immature stage, and the cows dropped off in their milk. This demonstrates that the corn is best when the nearest stage of maturity is reached. The B. and W. corn never, or a very small percentage of it ever, reaches that point in this country. It is just a question if this corn ever reaches that state when it contains the largest amount of nutriment, as shown by Prof. Roberts' experiment. Much has been done to get farmers to sow corn to provide against the contingency of winter feeding, and yet it was painful to observe during the past season how little of it was sown to produce the best results. My business causes me to drive very largely over the country, and I noticed in one section particularly that the corn was almost useless. It was sown broadcast, and there was nothing but a bunch of stunted stalks.

Mr. Fulton having entered the hall, Mr. Ballantyne informed him that he had been mentioning that he (Mr. Fulton) had been feeding his cows on ordinary corn and changed to Western corn, and the milk had fallen off.

Mr. Fulton.—The question of difference I did not take a note of at all, but we saw the difference. I sowed the southern corn one season and found the same result. This Mammoth Sweet was counted better than the western. I tried that, and I think it is a little better than the western, but nevertheless on our common Canadian corn I found the cows milked better.

Mr. Symington.—How did you sow that corn?

Mr. Fulton.—About fifteen inches apart.

Mr. Symington.—I have had a little experience, and corroborate the remarks of Mr. Ballantyne in regard to sowing broadcast. I am perfectly satisfied that the broadcast system is a great loss, and it will not produce the milk—it will not produce the quantity. The reason is easily enough understood. Nature never makes mistakes. Corn is a sun plant, and it wants plenty of sun. It will not produce the sugar unless it gets plenty of sun. I have always found in my experience that broadcast has not the sugar that corn has when sown in drills. A neighbor of mine sowed fifteen inches apart, whereas I sowed twenty-four inches apart, and had better results. I saw the difference between sowing broadcast and in the drill twenty-four inches apart on my own farm. In the drill it grew twelve feet long, while the broadcast was only short. It was my son made the experiment. After it was cut it was set up into stooks. There was some of it a storm knocked down, so I said to feed it to the cows. Well, I noticed the difference in the milk at once. It was perceptible, the greater quantity the cows gave from the corn grown in drills to what they did on that grown broadcast.

Mr. Pearce.—I can show you a sample of syrup made from mammoth sweet corn, and I think it has pretty well matured before you can get syrup. Another thing is the growing properties of southern corns are very vigorous.

Prof. Roberts.—I merely wish to say some of these remarks might lead you astray. The sweets in the corn—the carbhydrates—are not really the most valuable quality. It is the nitrogen or protein. The plant in the early stages of its growth has little protein, but has amides which may be said to be unripe protein. Protein is the material that is found in the caseine of milk and in lean meat. Amides do not fully serve the purpose of proteins. Of course the woody fibre, which is the least valuable, increases somewhat, but the total value increases in a greater ratio. (See figure 6.) This difference is all caused by difference in maturity.

Mr. Carey.—If this had to be fed green?

Prof. Roberts.—It can be fed green, and yet be nearly mature. Try feeding a few hundred hills of fairly matured field corn after feeding half matured fodder and note the difference in the yield of milk?

Mr. Lane.—I would like to ask if you have tried cutting up the corn when it is in its green state to feed to cows?

Prof. Roberts.—I would not cut 'till fairly mature, unless forced to do otherwise.

Mr. Lane.—I found better results from feeding in the stables last summer than in the fields. Taking two-thirds corn and one-third bran, I realized $2.43 more than the price of the bran in the course of a week.

A Voice.—How many cows had you?

Mr. Lane.—Eighteen.

The President.—There is no doubt that hay would be $6 to $10 a ton more than it is, but for the large amount of corn we can grow as a winter provender.

Mr. Ballantyne.—I would desire to make a few remarks to emphasize that part of Prof. Roberts paper, which deals with breeding for dairy purposes, and also on another very important point, viz., the feeding of dairy stock. In this country the dairy stock have never had a fair chance. The first improvement in the way of stock breeding was with the Short-horns, and it gave us a size and a form, and on the whole very good milkers, because the heifers were usually kept from the best cows, and in those days they were not damaged by excessive feeding. The result was when the dairy breeds were introduced into the country, there was a very strong objection to them on account of their size, and a desire on the part of the breeders of these cows to make a Polled Angus and Shorthorn, and you saw Ayrshire bulls weighing more than two thousand pounds at shows. This is one point you cannot keep too prominently before you always. If you are going to breed dairy stock, you must not force them to appear fat, but you must keep them in a healthy state. Now, that is true, that is sound, that is the experience of all who have been paying any attention to that stock, and yet we find breeders are just committing the same mistake of trying to put beef on dairy cattle. I remember in the neighborhood of Utica visiting a stock breeder, and it seemed to me he was trying to produce all the size and fat he could, and when I made the remark, he turned around and said: "I could not sell them if I did not." With our best families, using the pure Shorthorn and not over feeding, you may have excellent milkers, and where people are pursuing the principle of raising a few heifers, they should not try to put on beef and turn out good milkers at the same time. That is not breeding for a purpose, that is not increasing the milking properties of the animals. You have got a form and character in dairy cattle entirely opposed to the fattening animal. The chairman will remember walking with me one day towards my own place and passing a man with a common cow, and I said to the man, "What will you sell the cow for?" I said I will give you $100 for her. She was just a common cow, but every point indicated the milk. The owner did not take it then, however the following day he called, and said it would be a sin to let the offer go, and when I paid him, he offered me a luck penny back, which I said I did not want. Well, that cow proved to be an excellent milker. Do not try to combine milk and beef, because they are of entirely different form. Breeders of Shorthorns from the first day try to produce an animal that will fatten quickly and arrive at maturity early, but our dairy breeders have spoiled the dairy breeds by trying to produce at the same time a beef breed. Why do you want size? Why should you support an animal which takes one-third more to keep it alive when you have no more milk? I would like Prof. Roberts to be a little more particular about the feeding of young heifers. That is, after all, the trouble that our best farmers fall into now—trying to produce milk and beef together. They do not realize that in producing the one it is at the expense of the other. I would like him to say one or two words about the kind of feed he would give young stock intended for the dairy.

The President.—Have you saved any of the heifers from that particular cow you spoke of?

Mr. Ballantyne.—I have. We have no better breed in that neighborhood. I used my own Shorthorn bull in breeding from her.

Prof. Roberts.—The calf for the dairy is likely to be better, if raised on skimmed milk than on new milk. I imagine for the reason that there is so much butter-fat in the new milk that the tendency to put on fat will be developed. It is very dangerous for any but any expert to raise a calf on full milk. Raise them always in a box-stall. Feed bran—that is supplement the milk with bran as the calf advances. Feed in a large box, and if in feeding Jerseys you should have trouble from their bowels being "loose," feed whole corn. Whole corn is well masticated, and hence insalivated. The next winter feed liberally on nitrogenous instead of carbonaceous foods, but feed with judgment. Here one can use a certain amount of cheap foods in feeding the heifer. Bran is better than shorts. Cotton seed meal is to-day the cheapest and best feed that can be used in the dairy if used with judgment. You have oil meal, pease and beans, which will take the place of cotton seed meal.

The President.—Why don't you say oats?

Prof. Roberts.—They are good, but as a rule they are too high priced with us to feed cows. Feed liberally. If the cow is made to milk she will produce milk. If not, she will produce beef, and then should be sold.

Prof. Robertson.—You would not feed cotton seed meal to a very young calf?

Prof. Roberts.—We feed it to them at three weeks old.

Mr. Lane.—I have tried every way with feeding oil cake, and the best way is not to feed it fine, which has a tendency to scour the calves. When it is left in the cake they chew it and get the saliva mixed with it.

Prof. Roberts.—I did not mean to condemn the B. and W. corn. I think the larger the variety that will mature the better, and next year I hope to find out.

The Convention adjourned at 1.30 p.m.

AFTERNOON SESSION.

The Convention resumed at 2 o'clock.

The President after calling the meeting to order said he was pleased to inform them that the Hon. Charles Drury, Minister of Agriculture, was present, which announcement was received with applause.

Election of Officers.

The President then called upon the Nominating Committee to read their report, which was presented by the Chairman, Mr. Leitch, as follows :

Gentlemen,—Your Committee appointed to nominate the Board of Directors and other officers for the current year beg leave to report, as follows :

President	R. Cleland, Esq., Listowel.
1st Vice-President	J. B. Lane, Esq., Dorchester.
2nd Vice-President	Benj. Hopkins, Esq., Brownsville.

Directors.

Division No. 7	John Prain, Esq., Harriston.
" No. 8	Francis Splatt, Esq., Dunnville.
" No. 9	E. Casswell, Esq., Ingersoll.
" No. 10	Wm. Messer, Esq., Bluevale.
" No. 11	Thomas Ballantyne, Esq., M.P.P., Stratford.
" No. 12	Wm. Symington, Esq., Camlachie.
" No. 13	D. Leitch, Esq., Strathroy.

Auditors.

J. S. Pearce, Esq . London.
John Robertson, Esq., London.

Representatives to Western Fair, London.

James Carmichael, Esq., Arva.
John Geary, Esq., London.

Moved by Russell Smith, seconded by D. Sills, that the report of the Nominating Committee, just now read, be adopted.—Carried.

REPORTS OF INSTRUCTORS AND INSPECTORS.

The President.—Now, we are to receive the reports of the Inspectors and Instructors, Messrs Foster, Hunter, Isaacs and Hopkins. They have arranged amongst themselves that Prof. Robertson shall read the reports, with the exception of Mr. Hopkins', who will read his own.

Prof. Robertson.—Before I read the reports put in my hands I wish to explain why it is they were sent to me and why I had some charge of these Inspectors' work last summer. A resolution passed at the last session held in Listowel, reads thus :—

> "That the scheme for the further education of dairymen as outlined by Prof. Robertson's address be accepted as worthy of our endorsation, and that the directors of this Association be instructed to take steps to secure the services of competent cheese instructors and milk inspectors ; that we invite the co-operation of the Dairy Department of the Ontario Agricultural College, and recommend that patrons of each factory be urged to contribute $10 each to the funds to be administered for the foregoing purpose."

After the Convention a meeting of the Directors was held, at which I was present. It was then proposed that, through the Department at Guelph, I should send circulars to notify representatives of factories that by contributing 10 cents for every ton of cheese manufactured, or $10 for the season, to aid in defraying the expenses of these Inspectors and Instructors they could have the advantage of their services. I did so, and had responses in Western Ontario from 138 factories I think. Then after that time four gentlemen were appointed as Inspectors and Instructors. By a resolution of the Executive Committee these were put under my control and direction. They came to Guelph to receive uniform instruction in testing milk. The Directors and myself are responsible for the instructions of this circular, which reads as follows :

CIRCULAR TO CHEESE-MAKING INSTRUCTORS AND MILK INSPECTORS.

I. You may call upon factories, not subscribing to the funds of the Association, to inform them of the conditions and purposes of the system of instruction and inspection.

II. Only those factories which subscribe are to receive your services for inspection or instruction.

III. In the inspection of milk, consult the cheese-maker and advise with him freely.

IV. Use the pioscope and lactometer for all the different patron's milk.

V. Reserve as many samples as practicable for further examination with lactoscope and cream gauge.

VI. Leave a record of the tests by your instruments, with the representative of the factory.

VII. Examine and compare the factory thermometers with certified one.

VIII. Inspect the factory utensils for the purpose of advising the maker on the best methods of using and keeping them clean. The weighing can and milk spout, vats, sink racks and strainer cloth, curd cutters, hoops, presses and small utensils.

IX. Advise the maker as to the best and easiest way to secure thorough ventilation of the curing room.

X. Inspect the surroundings of the factory and advise as to drainage, etc.

XI. In every case secure the co-operation of the representative of the factory and do everything you can to help the factories you visit.

XII. Report to me once a week.

JAS. W. ROBERTSON,
Superintendent.

GUELPH, May 15th, 1888.

I have to say that so far as I know the inspectors were diligent in carrying out all their instructions. I did not hear complaint with the actions and work of the inspectors during the past summer. As soon as Mr. Hopkins has read his report I will read the reports of the other three.

NORTHERN DISTRICTS.

Mr. J. E. Hopkins, read his report as follows :

GENTLEMEN,—Having been appointed instructor and inspector of milk by the Executive of the Directors of this Association, I now present my report. In doing so I will give it in general, rather than in a detailed form. I also will present some of the difficulties in making cheese that I have observed while engaged in the duties assigned me, as well as suggest a remedy aiming at stimulating a greater interest in the manufacture of our cheese.

I was appointed to the Northern District, comprising the Counties of Perth, Wellington, Huron, Grey, Bruce, Dufferin, and one factory in Simcoe—a large territory, which means many miles of driving in order to get to each factory three times. I had 42 factories and visited all three times excepting three factories, which I could not reach before they closed. This section is well adapted for dairying ; usually cool nights, and generally well supplied with good water. There are some good factories producing a fine quality of cheese—no better, I believe, in Canada—but there are others which are inadequate for making a perfect cheese at all times of the season.

I began my duties on the 15th day of May and found that many factories had scarcely commenced operations and those that were making had not many patrons sending their milk. With a few exceptions the factories have a large number of patrons for the amount of cheese made, a great many not commencing until June and stopping very early in the season, which makes the remunerative part of the season very short to the maker and proprietor, and the results very unsatisfactory to the producer. It would be more satisfactory to all if each patron would have his cows calve by the time the factory commences to make, and send the whole season, paying more attention to his cows and have them produce a larger quantity of milk. During the past season while testing milk I find there are many that are taking cream from their cans in small quantities. In fact the practice has become so common with some in going to their cans and taking milk for family use (of course taking from the top), they do not think they are doing any wrong or violating the law. There cannot be too much emphasis placed on this point, that when patrons put their milk in their cans for the factory, they must not add to or take therefrom. If they want milk for use keep it out of the can. The law does not say you can take a cup of cream from milk sent to a factory, or add just a little water, but it does say, "milk from which any cream has been taken," or "diluted with water," as the case may be. Therefore the only wise and safe way is, not to tamper in any way with the milk. I find that some people wonder whether we can tell if they take just a little cream or put a little water in their milk. I had an old lady give it as an excuse in court that the reason she watered the milk was just to see if I could tell or not. Well, her curiosity only cost her $30 and the cost of the court. If there is any one in this Canada of ours that has the same curiosity let me say we can tell; that if you water or skim largely it will show, and if you water or skim less it will show proportionately; and that our instruments are taken in court as *prima facie* evidence to establish guilt.

I had five cases in court. The complaints in all cases were sustained and the parties fined. Several cases were settled by the directors, from $50 down to as low as $5, and some got off by giving a good promise. I went to see nineteen parties' cows milked, receiving no opposition from any in doing so.

I did not prosecute, nor advise factorymen to prosecute, all those that showed only a small amount of cream had been taken off. As this was the first year that inspectors had been appointed, I aimed at dealing with those greedy ones that were doing a wholesale business, and when a complaint was made the evidence was clear and no chance of acquittal.

Many factories make what they term their early cheese to ripen fast, which is all right, but in recommending this I think the word "early" should be better defined so that we can get a more uniform quality of cheese in the fore part of the season. One factory commences to make in April, one the first of May, one the middle of May, and another nearly the first of June, each making their early make cheese to ripen fast. The results are we have not a uniform grade of cheese up to the middle of June. I think it would be well if there was a certain date recommended, say the 20th of May, after which he should make not a hard, dry cheese, but a cheese having a good body and better keeping qualities. Cheese made after that date is often subject to hot weather, and some factories commencing the latter part of May have to keep their first made cheese some time before they have sufficient to ship.

Perhaps there never was a more difficult season than the past to make cheese, and some of the oldest makers told me they had to resort to means this year they never had before. A prevailing tendency in many factories was to have the latter part of June and July cheese with holes in it, which was very objectionable. I may give the cause and remedy before I close. This was where some failed. Nothing but experience, close attention and application with thoroughness, will overcome the difficulties in cheese-making. But many of the difficulties in cheese-making could be prevented if the proper means were used at the proper time. An old adage says, "An ounce of prevention is better than a pound of cure." This applies with equal force in making cheese, for many of the difficulties are directly due to carelessness and the want of thoroughness in all the details of the business. While there are difficulties common to all makers, I find some laboring under greater ones than others. The higher the standard of our cheese is raised the greater ambition all concerned should have to attain unto it. Never was there a more critical time than the present, not only to maintain the reputation we have won, but still improve the quality of our cheese by getting a more uniform grade—that one factory will not be making an inferior cheese to those of their neighbors.

I was surprised to find that there was such a contrast in the quality of cheese at different factories, attributable in some cases to the condition of the milk, in some to the facilities of the factory, and in some cases to the inexperience of the maker and the want of thoroughness and cleanliness on his part. No maker should take the responsible position as manager of a factory without being fully determined that there will be no pains spared on his part to make a first-class cheese ; without feeling that he is competent, and that he has a proper conception of what a good cheese is, and the best means to attain it. I find there are some makers who do not know what a good cheese is, and do not know they are wrong until some buyer goes to the factory and tells them they are not right. Then for the first time they find out their cake is dough. I do not wish to speak disparagingly of our cheese-makers, for there are many good makers doing all they can to make a first-class cheese, at the same time having many things to contend with.

There are three parties that are responsible for the class of cheese required, viz., the producer of milk, the proprietor or manager of a factory and the maker. There cannot be too much importance attached to the supplying of milk to a factory in the right condition. It is surprising the little interest manifested and sheer carelessness of some patrons, and until there is an improvement in this direction many of the difficulties will remain. During the past season while going to see parties' cows milked, I find a large proportion milk in the foulest, dirtiest place on their farm, and where they keep their milk over night it is subject to all the objectionable odors from barnyards, pig-pens, etc. Many do not pretend to strain the milk, and in examining cans at some factories, I find some cans so dirty for the want of washing and scouring that it would be impossible to send milk in good condition.

I was at a certain factory assisting the maker. When we had the curd advanced to a certain stage the proprietor asked me what kind of cheese we would have. I told him good only for a certain taint. He asked me to tell him the cause of tainted curds, as he had heard his maker speak of them. I told him he had one of the causes at home. His milk stand was conveniently arranged ; he could pour the whey from the can into a barrel that was kept for that purpose. From this barrel he fed his hogs in a trough, it coming up to the stand. The stand was a shelter for the hogs by day from the hot sun, and by night from the dews of heaven. On this stand he kept his milk over night, subject to all the odors that come from such a place. I explained to him how sensitive milk was to all such odors, and the result. He said he never thought of that before and would have it removed by the time I came again, which he did. What we want is pure nutty flavored milk. Milk does not want to be kept in large quantities, but kept in pure air, and stirred often, not allowing the cream to become separated from the body of the milk, for when it is once separated it is difficult to get it in the body of the cheese.

Another difficulty is gassy curds, largely due, I believe, to bad water. I believe stagnant water is a curse to good cheese. From observation I have found that when water becomes scarce and cows are compelled to drink from ponds, etc., I was troubled with gassy curds. I was confirmed in this impression while visiting Mr. Cleland's factory. His factory is as free from gas as any factory I know of. Mr. Cleland related to me as follows : he became troubled with gas and traced it to one patron's milk, and going to see him found that his pump got out of order and that the cows were drinking stagnant water. He got him to fix his pump and water the cows. After that he was not troubled any more with gassy curds. Mr. Cleland can substantiate this statement. Where milk is composed of 86 or 88 per cent. of water, it is only reasonable that cows should get the best of water.

There are some good factories, some good curing rooms, some veneered with brick, and some otherwise constructed so as to regulate the temperature. Some have their curing rooms in two departments, which is better than one, as we often have a month's cheese that wants heat, while another is better without heat. Every factory should have a good curing room. If one factory's cheese is exposed to 10 or 15 degrees of heat more than another, the cheese may have been made under equal conditions, but at the end of one or two months there will be a marked contrast. While I found some good making rooms I also found some poor, being cold and very roughly made. Some factorymen are trying to get along with as little expense as possible. Economy is to be commended at all times, but that economy that brings neglect and loss cannot be so commended. Loss in quality of cheese, loss in price and loss in reputation do not pay merely for the sake of a few dollars outlay. Every proprietor or manager should see that the facilities of his factory are adequate to make the best quality of cheese. He should see that the boiler has sufficient capacity for heating the vats in the proper time ; that there is sufficient sink room ; plenty of vats and not leaking, and that the floor and troughs are so arranged that the whey and water will go off without leaving such bad odors as are very frequent around some of our factories.

I also find another prevailing way of economy practiced by some managers of factories. That is to save a few dollars by reducing the maker's wages. I have recommended certain changes to a maker. He would tell me he was only getting so much and could not afford it. If the same system is continued I fear it will deteriorate the quality of our cheese. It is driving out of the business our best men. Remember what the Good Book says, "where much is given much is required and where little is given little is required." We want our best young men to learn the business, for the young men that are learning now will be managing our factories in a few years. If you have a good maker do not sell him for five cents, but pay him well and then expect him to make a first-class cheese.

I did not find makers differing very much in the method of making cheese, but what was more noticeable was that some makers were more thorough than others, keeping their factories clean and neat, having a place for everything, and everything in its proper place. Their cheese is clean and uniform, showing that it has been pressed properly, having a good finish. Others are to the contrary, not thorough enough, but satisfied if they only get inside the gate. The appearance of the factory and the cheese tells too plainly the old story—carelessness.

I tried especially to impress on makers the advantage of maturing the milk to the best condition before applying the rennet. This was where mistakes were made years ago, and it is where some are making mistakes at present—in setting the vat as soon as it is heated, irrespective of the condition of the milk, and then waiting for the acid to develop, leaving the curd in the whey a long time, and after the whey is drawn the acid develops very slowly, the curd getting more or less cold and all parts not having the same proportion of acid. The acid is an agent, the result of changes in certain component parts of the milk effected by heat and air, which begins shortly after the milk is drawn from the cow. The point to determine is how far this should take place before applying the rennet. This is an important point, and all makers should give it their most careful attention, for it is essential in order to have a well-proportioned cheese that the milk should be matured so that the acid will develop properly during the process of manufacture. As much attention should be given to get the milk in the best condition for the application of the rennet as we do for the application of salt to the curd. Get the milk right then the rennet will coagulate properly ; there will be ample time to heat and work the vat ; the curd will harden and the acid advance together for the drawing off of the whey, when the acid can be easily regulated by the amount of moisture you leave in the curd.

I have heard buyers express their disappointment in a month's cheese. They say it was cool nights and splendid weather, there should have been the best of cheese, and they could not account for it. The trouble was there had come a cool time, milk came to the factory very sweet and makers had not paid any, or sufficient attention to maturing the milk. The acid worked slowly and not evenly in the curd. The cheese looked all right as long as it remained cool, but when the hot weather came they commenced to show holes or other defects. Cheese will not stand hot weather without having the proper proportion of acid, and you cannot get it as effectually in any way as by maturing the milk. Some makers can tell very closely the best time of setting the milk by its flavor, but I found by advising the use of a rennet test makers could determine very accurately the best time to apply the rennet to the milk, and those that practiced it had very satisfactory results. If you are troubled with gassy curds mature the milk farther than at other times, aiming at leaving the curd in the whey only long enough for it to harden.

I will not attempt to enter in the details of handling curds, as time will not permit, but conclude by saying that the year of 1888 is past; all have had more or less care and anxiety, and no doubt there have been mistakes. Whatever may have been the expectation of the work the inspectors and instructors would do, or the disappointments, if any, on my part, let me say I could not do equal service and the same amount of good to each factory, the largeness of the territory often making it a long time in getting to a factory when wanted, and considering the short time some factories make. Some did not apply to Prof. Robertson until very late in the season, which made some extra work. Besides, some makers are doing good work already and looking well after the milk. While we cannot recall the past, the future is before us. I trust a grand future for the dairy interest of Canada, and that will depend largely upon every person doing his part. May the record of 1889 be the best one ever made—better milk, better cheese, better prices, fuller purses and happier hearts.

Mr. Hopkins.—I may say, in going to see patrons' cows milked, and in dealing with persons in the habit of adulterating their milk, it was sometimes amusing to observe the reasons they would give, and the bland innocence with which they would look you in the face and tell you a barefaced lie. When I first went to see patrons' cows milked I felt like making some apology. I thought it kind of mean to go to accuse men of skimming their milk, but I made my mind up to this, that the man's evidence who will water or skim milk should not be taken in court. The man will tell a lie and do all he can to make his family tell the same lie. I don't know if it would be wise or interesting to mention cases I came in contact with, but I had one old Irishman who was a good one to make excuses. This was at a certain factory, and I found he had ten per cent. of water in his milk; and for fear some accident had happened this man I told them to test the milk and see whether he was in the habit of watering his milk, and then go and see him milking, and I would be back and assist them if he was in the habit of doing this work. The Irishman heard that I was around and he came down to the factory, with his horses all warmed up, and said, "I think this afternoon I forgot to throw the water out of my can." The maker kept testing the milk for a couple of weeks and found it was all right, and he thought the man was honest in what he had said. In a month again I came back and his milk showed fifteen per cent of water. We went up to see what his milk was like when it came from the cow, and I told them I was the inspector and had found water in the milk. He said "Did you, did you? Well, there might be." Well, I told him there was no "might" about it, that this milk was watered. His wife said to him, "I told you to cool the can off last night. Did you do it." "Did you tell me to cool the can?" he said. "Well, I don't know whether I threw the water out or not. You should not be telling me to cool the can off; you know how forgetful I am." (Laughter) When we got through I told him "this milk is good." He said "Yes, yes it is. I don't know what will become of me, my memory is all going; I will soon have no memory at all. There might have been water in it, but I don't know." I said, "I am not responsible for your memory. There is only one course to take, and that is to bring you before the magistrate, and if you can prove that you are not a responsible person then you will get away." A new thought struck him. He said, "There is something wrong. I went away the night before last and I left that strainer pail right where you see it on the platform. It was half full of water when I went away and when I came back at three o'clock it was still in the pail, but in the morning it was empty. Where was it gone?" "Into the can, I suppose," I said. "That is just it," he replied; "some one put it in my can." So it is all around. Something or another happens just this one night. Someone put water in it one night, and the neighbors take the cream off another night. (Applause).

Prof. ROBERTSON.—After the very complete and lengthy report just read I give you the others because they are tabulated more and concise in their construction. The first I will give you is that of the central district, which was occupied by Mr. H. O. Foster.

REPORT FOR THE CENTRAL DISTRICT.

Prof. J. W. Robertson.

DEAR SIR,—I hereby present you with the report of my work as inspector and instructor during the past season.

1. The district in which I worked included the counties of Oxford, Middlesex, Perth, Elgin, Waterloo and Norfolk.

2. The names of the factories which I visit and the number of visits paid to each are given below.

Pond Mills, 2 ; Wilkinson's, 3 ; Springford, 3 ; Dempsey's, 3 ; Northwood, 2 ; Courtland, 2 ; Phillipsburg, 2 ; Tilsonburg, 4 ; Lynedoch, 3 ; Ferby, 3 ; Thames, 3 ; Verschoyle, 3 ; East Oxford, 3 ; Springfield, 3 ; Brownsville, 4 ; Kintore, 3 ; Oak Grove, 2 ; Culloden, 4 ; Carholme, 3 ; Gladstone, 3 ; Avon, 4 ; Lyons, 3 ; Spring Creek, 3 ; Burnside, 2 ; Harris St., 3 ; Honey Grove, 2 ; Blanshard and Nissouri, 3 ; Clear Creek, 3 ; West Nissouri, 3 ; Mapleton, 3 ; Sparta, 2 ; Malahide, 2 ; Middleton, 2 ; Diamond, 2 ; Bayham, 4 ; Thamesford, 4 ; Cherry Hill, 3 ; Lakeside, 3 ; Avonbank, 2.

3. I was honorably received in every case.

4. The number of factories in which adulterated milk was found was 36.

5. The number of cases reported to factory representatives by me was 124.

6. The number of prosecutions was 10 ; the number of convictions was 8 ; the number of settlements was 50 ; the number who acknowledged guilt, but in which cases no action was taken was 16.

7. The most noticeable defect in the milk was a tainted condition. The cause, I think, mainly arose from the cans not being properly cleaned, and from the practice of carrying sour whey back from the factories in milk cans. Sometimes the milk was left exposed to foul odors from the hogs being fed close by. The remedies are cleanliness and the feeding of hogs in one place on all the whey from the factory.

8. The main defects in the cheese examined arose from "gassiness," "pin-holes" and bad flavors.

9. The main faults in the method of making were, (*a*) not ripening the milk properly before setting ; (*b*) not using sufficient salt ; (*c*) in many cases not cooking the curd enough ; (*d*) in other cases dipping the curd too soon ; (*e*) leaving the curd too long before grinding ; (*f*) salting too soon after grinding ; (*g*) or allowing the curd to get too cold after grinding before salting ; (*h*) leaving the curd too long after salting before hooping ; (*i*) improper pressing and bandaging ; (*k*) and the use of cloths not properly washed.

10. The factories were all in fair condition as to cleanliness.

11. The equipment was fairly good, but the drainage was not good. The curing rooms were most suitable, but the making rooms were not so well fitted for use.

12. The making rooms were not furnished with heating apparatus.

13. The ventilation of curing rooms was effected through floor and windows, mornings and evenings.

H. O. FOSTER.

Prof. ROBERTSON.—I want to explain that in every case where settlements were effected as reported to me, they were effected between the factory representatives and the defaulting patrons, and not by the inspectors. There should be no collusion there. The next report is from the south-eastern district. This was attended to by Mr. E. Hunter.

REPORT FROM THE SOUTH-EASTERN DISTRICT.

The names of the factories visited are :

Ranelagh, Bookton, Delhi, Nixon, Walsh, Bertie, Beamsville, Canboro', Springvale, Boston, St. Williams, Vittoria, Lynn Valley, Black Creek, Jarvis West, Fork's Road, Bismarck, Caistorville, Villa Nova, Waterford, Norval, Jarvis East, Walpole, South Cayuga, Lake View, Stromness, Campden, Attercliffe Station, Tyneside, Rockford, Maple Grove.

The total number of visits was 94. Adulterated milk was found in 21 factories. I reported upon 56 cases.

Six cases were settled by the payment of fines. The other cases were settled by factorymen getting promises of better milk in the future. Others did not wish to prosecute for fear of losing the patronage of those suspected.

[Prof. ROBERTSON, (aside.)—Some of these factory managers and owners are themselves very much milk and water—mostly water in the matter of backbone and resolution.]

The number of factories in which improvement was effected I estimate at 22. In the other nine no apparent improvement was made.

The faults of the cheese were in most cases ragged holes, short grain, too much moisture and also bad finish.

The majority of the factories have good making rooms, well furnished. Others were open and cold, poorly furnished and not fit to make cheese in.

Eleven of the factories disposed of the whey by feeding it near the factories ; the others returned it to the patrons in the milk cans.

The majority of the factories are well situated with good drainage. Where I found poor drainage I generally found the poorest cheese.

In regard to the season's work, I found a marked improvement in the quality of the milk after my first visit. In factories where they require instructions I would suggest that the instructor remain not less than two days.

E. HUNTER.

WESTERN DISTRICT.

The report for this district, which was covered by Mr. John R. Isaac, is as follows :

GENTLEMEN,—Having received my appointment as milk inspector and instructor from the Western Dairymen's Association of Ontario, I beg to submit to you a report of the work done by me in the Western District.

I commenced work on the 15th of May and visited the following factories during the season, viz. :

Appin, 3 visits : Annet's, 3 ; Birr, 3 ; Blytheswood, 2 ; Colinville, 3 ; Crinan, 3 ; Chatham Centre, 2 ; Chatham Gore, 4 ; Dutton, 3 : Fingal, 2 : Geary's, 3 ; Gala Bank, 3 ; Glencoe, 2 : Keyser, 2 ; Melrose, 3 ; Maple Grove, 3 : Muncey Road, 3 ; Mayfair, 4 : North Branch, 2 : North Middlesex, 3 ; North St., 2 ; Orford, 2 ; Pond Mills, 3 ; Proof Line, 3 ; Payne's Mills, 3 ; Ridgetree, 2 ; South Plympton, 3 ; Sydenham Valley, 3 ; Sifton's, 3 ; Thamesville, 3 ; Thompson's, 3 ; Uttoxeter, 2 ; Vyner, 3 ; Valetta, 2 ; West McGillivray, 2 ; Warwick, 4 ; Wardsville, 3 ; West Lorne, 2 ; Wallacetown, 3 ; West Magdala, 3.

Total number of visits, 110 ; and 12 special trips attending courts and settlements.

I was well received in all the factories, and most of the makers were anxious to learn all they could. In thirteen factories I found adulterated milk and reported twenty-seven cases to the factory representatives. Of the above there were three prosecutions, one conviction and about fifteen settlements, and perhaps one or two more that did not report to me. I feel confident that there was a decided improvement in the quality of the milk on my last trip round, but I would urge that stress be brought to bear on the patrons to take greater care of their milk, as I found a quantity of it tainted in the early part of the season, caused, I think, principally from dirty utensils, close proximity to pig pens and slop holes, etc. Too great care cannot be taken to have all the utensils for handling the milk perfectly clean, and have the milk kept where the air is as pure as possible, and with a thorough airing and stirring before cooling there will not be the same chance for taint in the milk.

I found the main defects in the cheese were, weakness in body, and very uneven in quality ; dull in color ; also some with ragged holes, I think caused principally by not cutting fine enough in the vat ; improper cooking and allowing to mat in the sink before it is dry enough—the last defect caused by leaving the curd to get too cold before putting to press, which should never be done under a temperature of 75° Fahr.

The majority of the factories were not what they should be as regards cleanliness, but this could be easily remedied by applying lots of hot water with a good brush and elbow grease.

I should say that nearly three-fourths of the factories were not properly equipped, especially with curd sinks, racks and cloths.

Sites in some cases were very bad, and appear as if they had been selected when the snow was twenty feet deep.

Drainage was not good, especially in those of low situation, and I think the only remedy for them would be to conduct the soakage in pipes to a tank, say fifteen or twenty rods from the factory and have it carted away from there.

Buildings in a great many cases were not what they should be at all, as the cheese-maker cannot control the temperature, and it would be of no use trying to heat the making rooms in their present condition, as there are too many large cracks and holes in the walls and floors. Some of the curing rooms were heated and ventilated on a good plan, but the majority were not.

Finishing of cheese as to shape, appearance, etc. : My recommendations were to be careful as to uniformity of size, cleanliness in bandaging, trimming edges, and putting on head cloths smoothly, using nothing but as pure warm water as could be had.

If the work of inspection and instruction is continued, I would suggest that in your remarks on the work done by us, you might recommend to buyers and their servants who visit the factories, that if they have any faults to find with the work of the inspectors, they report direct to them or to you what they consider wrong or unsatisfactory, and not give their complaints to the makers, as this tends to hurt the confidence they hold in the ability of the inspectors and does not assist in that friendly feeling which I think should exist between them. It would be a decided benefit to the work if the buyers would support the inspectors in fulfilment of their duties, and the makers would then adopt more readily any suggestions the inspector might give by way of instruction.

John R. Isaac.

A Summary of the Work of Inspection and Instruction.

Prof. Robertson.—These are the Reports of the Inspectors. I will now present you with a summary of the work done: Total number of factories visited by the four inspectors was 152 ; number of visits made besides the special trips to attend courts, etc., were 438 ; number of factories in which milk, believed to be adulterated, was found was 95 ; the cases of adulteration reported to the representatives of factories were 226. There were cases besides those, of a doubtful nature, referred to by most of the Inspectors, especially by Mr. Hopkins—cases where a very little cream for the tea was taken off. The number of cases of convictions and settlements by paying a fine or consideration to the factories, from $5 to $50, was 101. That being the work, I will not detain you more than five minutes in giving you my report, so far as I was connected with this plan. Since this work was undertaken, I have read and heard that there was no need for the employment of milk inspectors. The facts are before you. One hundred convictions, and 95 factories out of 152 factories visited reported as receiving some adulterated milk! And, let me state, its importance cannot be known when very much more adulterated milk goes to factories that do not belong to the Association than to those that do. Therefore, I would expect to find more in those factories which the inspectors did not visit. Then, I had direct reports from some factories besides the ones given by the instructors. Circulars were sent to them to fill up, and they would not report things worse than they really are. In these I find they report to me that an average of between eight and nine per cent. of their patrons during the season sometimes sent adulterated milk. I think the 91 honest dairymen in every factory should see that their reputation is not smirched by the action of these men. (Applause). Let us clear our reputation of having 8 per cent. adulteration. Let every factory receive that which gives 100 per cent. of pure milk, and by putting down this dishonesty our business will have a better chance to prosper. Then, it has been said there was no desire for instructors, even if there was need for them. Out of the factories employing instructors last year, who have reported as to their attitude towards employing them next year, I have not a single one unfavorable to their continuance. Then, I have half as many factories more, who did not employ them last year, that report they are favorable to their employment during the coming season. So we find the desire for them not only expressed before but now emphasized. Only four unfavorable replies have been received. There are always some men born with the liver complaint, and they will never recover. (Laughter.) Now, a word or two with regard to what we have done. When the resolution I read to you some time ago was adopted in convention at Listowel, I did not paint an outline of what we might expect in too brilliant colors. Instead of reaching 100 factories, we have reached 152; instead of helping 25, I am confident we have helped over 100 factories substantially through the last year. Every maker is helped to do his work better by some outside influence—to do the best he can with his work. If the maker is himself of such a nature that he cannot be helped, the instructor can never help his cheese. My instructions to the instructors were never to try to make fancy cheese to contrast with the cheese of the factory, but always to try and improve the cheese through the maker by using him. If we wanted to give merely exhibitions of fancy cheese, we could do that at far less expense. The purpose was to help the makers and thus improve their cheese. A good deal of complaint was raised about June and July cheese, these months being cool in temperature, compared with previous years. I find that in the cheese factories helped by the inspectors the milk was not so inferior as in those not helped at all. The agitation of the past year had so improved the quality of the milk that the makers kept on in the old-fashioned way of using their treatment for all kinds of milk, and we had pin-holey cheese very often. After this was recognised, and by a good deal of agitation brought out, I think we had not ever before finer cheese in this Province than were made after then. I think that was largely due to improved milk, and then to the makers being able to appreciate the change. I think the record more than justifies the employment of inspectors. In the second place, when changes were asked to be made in the legislation for dealing with the adulteration of milk, some men thought that they were not required. We had an Act specially prepared, mainly by a committee of this Association, and put upon the statute book by the Legislature in Toronto. That, notwithstanding some defects, is a good Act, a valuable Act to us as dairymen. No legislation can be perfect. In the nature of things, it must be capable of improvement as people make progress. In our legislation, as things improve, then we can have it improved. The people of this province make its laws. It is a good law, because it has prevented men from adulterating milk. An Act that would have punished those adulterating milk would not have been so good as this one which prevents it. All legislation of this kind should be to prevent; and, only when unsuccessful in that way, to punish. Then, the Act has been operated fairly well. The only weakness has been lack of moral stamina on the part of factories that have declined to operate the legal machinery given them. Now, I think we can congratulate ourselves upon some real advance, because we have commenced systematic educational work, and a commencement is something to be thankful for. There is always difficulty in studying and successfully carrying into effect the details of and new educational departure. No educational institution is ever satisfactory on its first trial. Ours is more satisfactory than any I am conversant with. We want to go on and eliminate what defects have been discovered, as well as improve and make inspection more general. How can we do this? I think we should urge the Government to provide the machinery for the application and enforcement of the Adulteration Act, as we have machinery for the application and enforcement of the Act connected with the adulteration of foods I think the Government should provide the machinery for that at Government expense, so that an official would drop down at any time, he being clothed with official authority, being truly a detective and prosecutor with the Government authority. We may be sure that would be the best protection we could have, and I think one that would keep dishonest patrons from adulterating the milk. (Applause.) We have but few, able, skilled instructors, and their time is worth more to us as instructors than as inspectors to appear in court to prosecute in cases. Now, if you will secure the co-operation of every factory, I think that this Association can provide for their instruction. The visits last year cost on an average nearly $8 per visit. Sometimes the factories were so far apart that the inspector took three days to reach a factory and get back again. If the factories would more generally support this work, the expenses would be reduced. Thus, if we would do this for ourselves, the lesson of self-reliance that would be exemplified would do our whole business good. That has been, after all, the main means of progress in the past. We have got some little help from the Government. That is a mere bagatelle compared with the $8,000,000 we bring into the Province, and by granting us more help the Government would be showing their appreciation of this good work, which is not for the benefit of cheesemakers and patrons,.but for the good of the whole population.

The President.—You have heard these reports and Prof. Robertson's remarks. The subject is now open for discussion, but I will just take the liberty of saying the next order of business is Prof. Robertson's address on "Cheesemaking for Beginners." Before that speech comes on, some little will be said about the finances, and some other way that must be adopted than what we had last year, because we are in a different position. I was glad to hear Prof. Robertson speak of them in the way he did. Occupying the position I do, I would say we do, as officers of this Association, congratulate ourselves on the success of appointing the inspectors. We got through, but we would have been in a bad fix if it had not been for Prof. Robertson, who has taken the detail of the work. We could not have handled the thing in the same way, if Prof. Robertson had not taken hold of it as he did. I think the Government should do as they do on the other side. I believe the Government there appoint special inspectors and pay them, so that they are free of and not despised by dairymen. To show you that something must be done, as I said, we are in a different position as to finances to what we were last year. We had about $1,100 on hand last year. We undertook an expense of $3,200 in connection with the inspectors. After these are paid up we will be about $700 behind, so we are in an $1,800 different position to what we were last year. This meeting, or the Directors, will have to take into consideration some means of providing for the instructors if we are to go on with them another year. There is no doubt the people want them continued. I know, in many instances, where the factory-men would not have them at first; they say they must have them now, and will not do without them. We must have more money from factories. I am glad the Hon. Minister of Agriculture is here, because he can see what we have done with the money and the position we are in. I see no other thing but to pay up the inspectors and go to the Government, through the Minister of Agriculture, and ask for a larger subsidy to carry on this good work. I do not think any Government ever spent money more satisfactorily than by aiding the Dairy Associations of Ontario.

Mr. CHADWICK.—I should be very glad, indeed, to make a remark or two in confirmation of what Prof. Robertson said in regard to the acceptability of the services of these inspectors during the season. Producing a large bundle of letters, Mr. Chadwick said : The greater part of that has come from factorymen in connection with their services, and out of that pile there is but one factoryman that has made a complaint. His reply was that he thought the inspector had not done his duty and hoped the Association would return his money. That is the only one that has not expressed the highest measure of satisfaction with the way in which they have done their duty. In the first season if that is the result I think you may be highly gratified with the prospect that in the future they will appreciate it far more. I merely wish to make that remark to show you that their services have been appreciated, and that the expression of most of the factorymen is that they have been highly gratified and improved and benefited by their services.

Mr. BALLANTYNE.—As it will appear that the expenditure has been very largely in excess of the income, at all events in excess of that contributed by the factories, if we are to continue these inspectors we must have a larger revenue from some source. The factories must either contribute more or we must get assistance from some other quarter. I do not know of any other quarter but the quarter we have received it from since the beginning of this Association. This is now, I think, our twentieth convention. We have endeavored always to make this institution of the most value that it was in our power. In the present day of farmers' institutes discussions on farm subjects are not so new, but when this Association was organized it was not so. We were then the only association that discussed these matters, and so up to the present time the discussion of the question of breeding and feeding and taking care of milk, up to a year or two ago when the Creamery Association was formed, has been confined to these associations, and we were the first in the field. I would say that strangers might think it was the first time we had tried to improve our system by means of instructors. We were the first association I know of in the world to appoint instructors with a view to improving the quality ot our goods. Now, with respect to the necessity for instruction, what did we find ? A young man remains a season or two in a factory and then begins in another place. No person can assist him. A boy is left all to himself, and you found that the factories which had improved were those where the maker had visited some other factory or where another maker went to him. That is the only practical way to get improvement, because in cheese-making, where it is just a matter of watching the natural changes that are going on, it requires a practical knowledge and experience to know how to produce the same quality of goods from the same process. One of the inspectors said he found the goods all the same. That is true, but it is the manipulation of the cow that makes the difference in the quality of the goods, and our best men know that. In the early days there was one way by which we could get informed, and that was through the makers who had visited the most celebrated factories. Since the first day, twenty years ago, when we met and formed this Association without any Government assistance, the best cheesemaker was always willing to show the secret of his success to his more unfortunate brother. We started out at the very first, recognising the principle that every pound of poor cheese diminished the value of good cheese. Our first experience was not in all respects successful. We continued. Others followed our example. We improved the quality of our goods, and the price of cheese as compared with Eastern Ontario was generally one to one-and-a-half cents more than theirs, and now that they have followed our example the prices are often about the same or sometimes theirs is at a premium. In Scotland it is the same. They formed an Association. I happened to be present. They saw that if they sold their cheese for a poor price it would get a poor run. Now, what do we find ? The English Government last year voted £5,000 to assist this work. We find the State of New York voting a large sum expecting to accomplish the same object ; and we have nothing to fear from that. Cheese is the most elastic of foods that can be produced. Now we have reached a stage when we have expended beyond our income. We knew that this would be the case, but it was necessary to extend our system. We had become very generally impressed with the idea that there was considerable adulteration going on, and that while it was the duty of parties who had skill sufficient to detect this to stop it, yet it was not being done, and it was a delicate matter, however important. It was known that the stock-owners were not giving their makers all the assistance in this way they should have given. Factories are now so numerous that they were afraid of offending their patrons and driving them to another factory. We felt by employing officials they could render invaluable service in this direction, aud they have done it, but we cannot continue unless we pay more. I have often remarked that a combination of ten or a dozen factories could employ a man to give his whole time to visit them and advise with the cheese-makers and then make money. (Applause.) I have no doubt of it, because I am satisfied of this, that the first requisite and last requisite, the Alpha and Omega, the beginning and the ending of good cheese is pure milk. With the knowledge we have now, it is not difficult to make fine cheese if you have got fine milk, but you have to handle poor milk too, and it is impossible to get rid of this except by visiting the patrons. I do not believe that they are always unwilling to co-operate with you, and I have not found it so. I have been connected with factories for twenty years and never found patrons offended by telling them what was wrong. I cannot quite understand how that is offensive. I remember well when the cheese in this West of London district sold at low prices. I was very much impressed that it was caused by the carrying back of whey in the cans, and now we find no such difference. They have awakened to the importance of that. I believe that the farmers are perfectly willing to be informed, although the reports say there has been some adulteration ; I suppose that will always be ; it is a contagious disease ; it spreads very rapidly. (Laughter.) We remember of a prominent public man who got into trouble at one time, and his excuse was "his neighbors did it." If they are caught they always know their neighbor has done it, although the majority are above that. I was blamed for referring to a factory not a hundred miles from London last year. In that case they had appointed an inspector. He was afraid to undertake the work himself, and we got a specialist and he did reveal something. It was in an old dairy district. They had been adulterating the milk, and they think they should do it. That was changed by the inspector. I volunteer the statement that the cheese-maker upon the same principle has been making cheese which has been infinitely better during the past season. I know of no way that the Government could expend its surplus better than by giving us a little of it. I think if there is a country in the world that is specially adapted to cheese dairying, it is this, and I think it is the basis of all our wealth. Our dairying farmers are all rich. They have plenty of money to lend to others.

Mr. Cleland.—No, no.

Mr. Ballantyne.—I don't know about that. When I first knew him (Mr. Cleland) he had 100 acres and lived in a log house. Now he lives in a stone house, and has 350 acres, which is as fine a farm as there is in the province—(laughter and applause) ; but he believed in breeding dairy stock, and was not afraid to feed them. I have thought whether it would not be well to form a cheese-makers' association, leaving the farmer's institutes to treat on the production of milk, because the cheese-makers have formed nine-tenths of our audience I am pleased to think we have with us the Hon. Minister of Agriculture, the first that has ever been with us. (Applause.) I was going to say I would not only advocate having papers and discussions on purely cheese-making subjects, but I would advocate a cheese-makers' union. (Applause). We have a carpenters' union and a bricklayers' union, and the men have united to obtain higher wages at the expense of their employer ; but with cheese-makers to ensure higher wages it need not be at the expense of the employer. It is the tendency in the present day to beat down the cheese-maker ; young men leave a factory as soon as they have learned the business, and we have difficulty in filling their places, because we don't find any surplus of cheese-makers now. And we have a large number of joint stock companies, in connection with which if a factory becomes vacant they are willing to take anyone who will work for a shilling less than another. I have had the management of factories for twenty years, but I have never tried to beat down a maker. I suppose I am paying the highest to-day that is paid in Canada, and it is the only way you can keep the young men at it. It is the greatest extravagance to try to reduce the wages of a maker. No one can imagine the anxiety of a cheese-maker. He is dealing with an article which is never two days in the same condition and yet he is supposed to produce goods of uniform quality all the year round, regardless of the conditions. He is dealing with an article that he knows comparatively little about. Something may be in the water and he may find a fearful odor, but he has no time to find out what is wrong. I went to a factory this year where a nice young lad had been engaged. They washed the cans at the factory, a very wrong practice, and one the inspectors should point out. I bought the cheese for a particular place. After I examined them I found I could not send them there. I went to the factory and said who is your President? I found out that they threw some water into the cans and just turned it out again. I said, are you aware of what is going on; do you call that washing? I said of course, I can do nothing with that cheese. What was the effect? There was no finer cheese than that boy made from that time. Well, I have branched away to a question on which there may be a great many opinions, nevertheless I have been more and more impressed with it; and if you appoint a committee, and form a union and draw up a scale of prices, not extravagant, but renumerative, I think that would retain our best young men. Now, a factory gives a maker 2c., 3c. or 4c. lower, hoping that he will make pretty good cheese, and they will raise the pay next year. This is what is going on all the time, and the result is, it is driving the best young men from the business. Regarding the inspectors, I have no complaint to make about them. There is this to be said about the quality of cheese, that in the early part of last season they were not fine. They were defective from holes in them, or just the curd not being united. Now, of course the cause may afterwards be discussed. No doubt it was from not maturing the curd properly, but another cause was not pressing it properly. Cheese-makers do not spare any pains in finishing your cheese. Another thing, turn your cheese in the morning, reverse the position in the hoops, and you will find very little ragged edges. We must get over that, and if inspectors are employed, I hope they will specially look after this. I have thought further, that to utilize to the fullest extent, the dairy department in connection with the Agricultural College, there should be some experimental work done. Teaching may be good enough, but the experimental work is what has given your cheese the reputation it has abroad; and I have thought that the Government should give money and authorise Prof. Robertson to start a factory in the west and another in the east, and put a competent man in charge, and let him be experimenter at a place where the makers could go and visit him. Now, I throw out these suggestions, and I have greater pleasure in doing so as the Hon. Minister of Agriculture is here, and he will understand the difficulties in the way, and what has led us to them.

Prof. Roberts.—I don't know, but it seems to me there are one or two things you would be benefited by discussing a little further. The first is the adulteration of milk. You may have the best system to keep the patrons from skimming milk, but it is so far from a perfect method that it seems to me worthy of careful consideration how you may get a better. Already we have a machine in the States that is said to tell very easily and very quickly and very accurately the amount of solids in the milk, and that is what you are after. We must come to that, and the locality that gives a practical method of determining the solids in milk has solved the problem. That problem, I may say, I believe is already solved. The second thing is that no cheese factory has a moral right or legal right to take any tainted milk, and the sooner you get down to bed rock the sooner you will have things right. There is no need of tainted milk. The next thing I desire to say is that while I agree with most of the remarks of my friend, Mr. Ballantyne, whom I esteem so much, I cannot think that a cheese manufacturers' convention or association can in any sense or in any way take the place of this organization. It can be another convention, but it cannot take the place of this one; for here I want to say to you young men who are learning to be experts in cheese manufacturing, that you can never get larger wages until you have done two things, and these two things are to induce the farmer to breed a better cow and to feed her better. You cannot get but 100 cents out of that Canadian dollar. You have already received for fancy brands ten cents a pound. Whenever you raise the price above that, all around are men ready to lower the price. You cannot hope for bigger prices in the next twenty years unless in case of some calamity. No man will pay you 100 cents for the sake of getting 90 cents back. You have got to commence at the other end of the string. You have got to have a cow that will produce instead of 2,800 lb. a year, 4,000 lb.; and instead of 14 cents you have got to feed her for 12 cents a day, and feed her better.

Mr. Ballantyne.—He is quite right as far as he goes, but he does not go far enough. Does he mean to tell me if I can get half a cent per pound more than another factory the year round, that I cannot afford to pay the maker more liberally than the man that has got half a cent less? There are factories always in demand, and even at a difference greater than is paid to the maker. And further, you will never have a large consumption of inferior quality. Every day the public are getting more fastidious as to quality. They are quite willing to pay more for good cheese, and will eat more of it, and there is no article so elastic where the quality affects the consumption so much as it does cheese. It is not used when bought on account of its cheapness but just as a matter of taste, and you will never be able to increase the taste for cheese with poor cheese. Everybody knows when a person gets a good cheese all the family eat it, and replace it when it is done. What is the way with poor cheese? When it is done there is no more of it got. A private family will eat a couple of good cheeses in a year. Let us have uniform quality and there is no doubt about our getting enough to pay the difference that will have to be paid to the maker.

The President.—I cannot allow that question to come up and be passed over without endorsing what Mr. Ballantyne has said in regard to cheese making. If your cheese-maker has been a success do not get rid of him for an untried man who will work for five or ten cents per 100 lbs. less. He knows the patrons, and knows how to accommodate things to your circumstances, and you may lose more than five years in getting the same satisfaction out of another man, although you may think him just as good. As a rule, those that have kept their good, tried makers, have a reputation for their factories. How much do you save by keeping them? How much may you not lose by changing them? We want the most desirable, the most capable, the most enterprising young men to make good cheese, but if you don't give much more than a common laborer gets they will turn their attention to something else. (Applause). I say if a man is expected to pay for any bad cheese that he makes he ought to be paid for the ability he lays on the good cheese. In many cases factory owners do not keep enough labor to cure their cheese properly, and there is a great deal in curing and boxing cheese. Mr. Ballantyne touched on one subject which he did not touch enough upon, that is these miserable ridges caused through makers not turning their cheese. Another thing is when the cheese is boxed, and especially in fly time, the flies get in and the skippers nest there, and another loss is sustained. Mr. Cleland questioned Mr. Ballantyne when he said the dairymen were making money. It is strange how he should contradict himself with such bad grace, for it is not a year ago since he attributed all he owned to the dairy. "When I came to this country," he said, "I had nothing, and the wealth of this country is made by dairymen." Since that he has been importing horses and pigs, and he is one of the most enterprising dairymen we have.

Mr. Ballantyne.—I forgot that Prof. Roberts never ran a cheese factory. I have seen how more money could have been made in the vats as well as from the cows.

Mr. B. Hopkins.—I have no objections at all to the gentlemen showing what cheese-makers should do, but I understood the reports of the inspectors were before us, and it was expected that our cheese-makers would criticise these reports. I find from what has been stated, everything will be done by breeding the cow, but we cannot expect cheese-makers to breed and make the cheese and do the whole of it. What I want to say is simply if there is any criticism in regard to these reports I hope we will have it.

Mr. Lane.—I want to impress on the cheese-makers' mind a remark made by Mr. Ballantyne in regard to this ragged edge being turned down on the cheese. Mr. Casswell and I were in Toronto last winter and examined some cheese sent by a maker to a commission merchant and returned by a customer. The man turned the cheese out of a box, and just where the edge had been turned over the skippers had got in. Cheese-makers should be careful about turning their cheese and breaking the edges of them, and not have those edges sticking upon them.

Mr. LEITCH.—I am only a farmer that sends milk to a factory. It is well-known in our part of the country that every farmer wants to send good milk. What is the standard to make good cheese? what is the butter fat standard that is required to make the best quality of cheese? I can make cows give a great deal more milk by certain foods, but the quality will deteriorate. Now, is it not better to take a lesser quantity of milk and make a larger quantity of cheese? I want some one to lay down to us what standard will make first quality, that as farmers we may work up to that. You can make poor cheese where there is only 3.25 per cent. of butter fat, and a very poor one where it only goes 3 per cent., and unless it goes higher you cannot make it good. Another thing I think the farmers should know, and it is this: if we raise the ratio in the milk does it raise the ratio in the cheese? If you can make 4 or 5 per cent. of butter is the casein increased on an average with the butter. No person should be ignorant of the quality of milk, and of course if you want me, or anybody else, to seek to know the quality, we must find out.

Prof. ROBERTSON.—We have in our province an Act on the statute book calling for 13 per cent. of solids in the milk furnished to creameries. I think we should have very shortly a standard of valuation fixed by the percentage of solids. The proportion of solids for making a fancy kind of cheese I think would be from $3\frac{3}{4}$ to 4 per cent. of fat in milk. I think if you go much higher you lose some of the fat, and then it does not pay to make it into cheese. It will pay better if you have 5 per cent. to make it into butter. By giving increasingly good food and care you increase the most valuable constituent, which is fat, and the next most valuable, which is casein, and the next, which is sugar, but very slightly. The coagulable casein varies with the conditions in which the cow is kept. If this were not present it would not thicken by the action of the rennet. So all these things, after all—the way you keep your cows, the kind of cows you keep and the way you handle the milk—are things all cheese-makers should study.

Prof. ROBERTS.—Does not the relative proportion of the constituents of milk vary more from breed than feed?

Prof. ROBERTSON.—Very much.

Prof. ROBERTS.—If you are an expert cheese-maker will you say if you cannot retain the fats in milk far better when the globules are small than when they are large?

Prof. ROBERTSON.—You retain a larger per cent. of the fat when the globules are small. When large a larger per cent. is lost in the whey.

Mr. BALLANTYNE.—It does not follow because milk is deficient that it has been adulterated, because it may be from the breed or the feed that the deficiency arises, and patrons should not be charged until it is certain they have meddled with the milk. In one of our factories, at Tavistock, there were two cases of persons sending milk found to be deficient. There was everything to suggest that it had been tampered with, but on examining the milk at the place it was found that it had been received at the factory exactly the same as it came from the cow. The examination should not be gone about in a superficial way. It is a most delicate thing to proceed with, and should be gone about very cautiously.

ADDRESS BY HON. CHARLES DRURY.

The President then called upon the Minister of Agriculture to address the Convention.

Hon. Mr. DRURY.—Mr. President, Ladies and Gentlemen—I am glad I can say ladies, because though there are not very many, there are some, here—I can assure you I have listened with a great deal of interest to your proceedings this afternoon. I do not come to you to speak on the manufacture of curd or the sale of cheese. I suppose I know less about that than almost anyone here. I have learned here, however, that the old saying, "There are tricks in all trades but ours," which the farmers used to apply to themselves, is not strictly true, for while the merchants are accused of many sharp practices to increase their profits unduly there are some who are tillers of the soil, or at least engaged in producing milk for the manufacture of cheese, to whom that remark would not be applicable. I have listened to the statements concerning the practices of some of the patrons of cheese factories, and I must confess to you that I feel somewhat different with regard to the Act of 1888 from what I did at the time it was before the House. I think the hon. member for South Perth (Mr. Ballantyne) will remember that I then expressed before the committee some little fear with regard to the working of that Act. First, I was in doubt as to whether it could be reduced to a scientific certainty, and by a test actually determine whether there was adulteration or not. I learn there is some little doubt whether there might not be some discrepancy, but I am pleased to know the consensus of opinion is that the Act of 1888 was one of right principle. I am glad to hear that the work of the inspectors has been valuable to you and has led to the detection of attempts at adulteration. As Mr. Ballantyne has pointed out, it is not hard to see how this thing might spread in the community. One man says, it is no worse for me to do these things than for some one else to do them, and so it spreads; but if there is a means for detection and punishment in such cases, that will speedily act as a deterrent. Then another thing about which there was some doubt was whether it might not be resented by the owner of cows to have inspectors going on his premises and taking specimens of milk. Now, I am glad to find that some points I was afraid of have not been found to be objectionable, and the vast majority of the patrons concur that the Act of 1888 is a good and useful one. I am glad to hear the position Mr. Ballantyne takes, with the knowledge he possesses, not only of the trade, but of the circumstances of the patrons and factory owners. I am glad that he can stand before you and say that cheese-making has rendered those connected with it comparatively well off. I am glad to know that, because in some parts of the province the cry is the farmers are getting poorer and poorer. Those engaged in mixed husbandry complain of the small return from their labor. I believe the estimate that 180,000 farmers of Ontario are only receiving 3½ per cent. for their expenditure in land and stock is about correct. I am glad to hear that the dairymen are making much above the average mentioned. I do not know what Mr. Ballantyne will say when we come to ask the Legislature to increase its grant to help the cheesemen to make still more profit. I will leave it to his ingenuity to reconcile the statements, but I know he is so ingenuous that he will have no difficulty in doing so. Now, as to the dairy industry, the returns of the export of dairy products show that it is certainly a very important one. Out of 180,000 farmers in the province 41,000 are patrons of cheese factories. Then as regards our exports, I find that cheese figures as perhaps one of the heaviest items I have no doubt you gentlemen are well informed in this matter of trade, but you will excuse me for a moment if I refer to its volume. In 1886 we exported cheese to the value of $6,754,626 and butter to the value of $832,355, while in 1887 this had risen to $7,108,978 for cheese and $979,126 for butter. Now, certainly it can be urged that this industry should receive the greatest attention on the part of all engaged in agriculture. The figures before us bear out everything that can be said in that direction, and I need not assure you that my sympathies are with you and that I have watched for years the improvement that has been going on in the product of the dairy. There was a time when our cheese was inferior to that of other countries. To-day we have the proud distinction of beating our American cousins, and, while probably the finer qualities of English cheese are bringing a higher price, our products are at least on a par with the average of theirs. Now, I may say that to your association largely belongs the credit of having brought about so desirable a condition of things. While I look around and see before me those who have long been known in the country as leading representatives of this great industry, and that we still have the benefit of their presence and advice, I am also glad to see so many young men present. By their presence they show their interest in the subject, and therefore we look forward with confidence that this industry will go on and expand, and that they will take the place of the old men with all the ripe experience of their lives and with the advantage of all that has been gained by their well-directed experiments. While I make no promises in respect to an increased grant, I can understand very clearly the necessity of doing more for the extension of this great industry. I do not intend to occupy your attention this afternoon, because I recognise the fact that there are men present who can instruct you in your business better than I can. I am here as the Minister of Agriculture to identify myself with this great branch of agricultural industry. I am here to show you that in the work you have to do I will help you in every way I can. That it is the duty of the Government to appoint inspectors I myself have serious doubts about. A case is now before the courts under the Act of 1888, where the jurisdiction of the Ontario Legislature has been called in question, and I do not hesitate to tell you that I do not believe it to be wise or politic to take further steps in this direction until the validity of the present Act is decided. I think it is open to question whether inspectors do not take their powers from Dominion law. When that point is decided it will be time enough to decide what further steps should be taken. I thank you for the honor you have done me by calling upon me to address you, and I can assure you it has given me great pleasure to be here. I am glad to congratulate you upon the honor which you enjoy as an association, in that you are able to look back upon twenty long years of usefulness in this direction, and I believe that to the Dairymen's Association the cheesemakers of the province owe, in a large measure, the proud position they have taken with their wares in the dairy world. (Applause.)

Moved by Prof. Robertson, seconded by Mr. Clark, and resolved, that the reports of the inspectors and instructors as read be adopted, and that the Association hereby expresses its appreciation of the faithful labors of these gentlemen.—Carried.

CHEESE-MAKING FOR BEGINNERS.

Prof. Robertson, introducing an address on this subject, said : I want to have a simple talk on cheese-making with cheese-makers who are just beginning to learn their business ; but I hope also to go into the subject so fully that some who have been a long time in the business may get some new ideas and help. I want to ask your close attention. The man who stands to teach other men should always have a clear conception of what he seeks to teach ; and teaching others will always give the man himself clearer ideas. I know more about cheese-making since I began to teach cheese-makers than I could ever have learned if I had always stood in the cheese factory beside a vat. We all learn by comparison or contrast, we learn the deficiencies in ourselves and the defects in our methods, which we did not before recognise when we come into contact with more people and see other methods than our own. Having said so much and since we pass from the known to the unknown, I want to carry you beyond your present knowledge.

All we know about cheese-making has been learned by experience and experiment. Mr. Ballantyne said in his address this afternoon that the progress of skill in dairy practice was all the result of experiments. Every cheese-maker every day is an experimenter. This being so, every cheese-maker must have some knowledge which another cheese-maker has not, because his experiments have been different. But we pay too little heed to the value of experiments ; and I here recommend every man of you to carry on these for yourselves as well as to learn from the experiments of others. Then next time we meet in convention, let every one contribute something of information which has been gained in this way in your own establishments. But a factory owner says, " If experimental work is undertaken it will cost something." He is not willing to put more expense into the equipment and management of his factory. That is not necessary. I desire to impress upon you, the need and advantage of carrying on all the operations of the factory, with such careful observation, that the regular work will become most usefully experimental. Certain methods have been discovered, whereby under favorable circumstances, cheese of uniformly fine quality may be made. But as we begin to force cows to give more milk we somewhat change its nature for cheese-making. It is not so much the proportion of the casein as the essential nature and condition of the casein which have been altered. A man thinks because his milk is produced in greater abundance that there is sure to be greater product in the form of cheese. Sometimes that is not realised; for parasites get into the milk. As men begin to grow wheat extensively in any section new parasites attack it; and as you go to raising other crops you get other parasites. When men grow peas generally in any section they have parasites peculiar to that crop. As corn is grown, you have smut and other things of that kind. We have parasites in milk that have not been known as detrimental in cheese-making for more than ten or twelve years at most. We have not introduced an effective remedy for them. I believe the remedy lies in the application of pure air to milk. That will as effectually rid the milk of these parasites as Paris green will get rid of the bugs that infest potato plants. In other words this means that the influence of air will destroy the vitality of certain parasites in milk which are just as real as potato bugs, only not quite so large. (Laughter). The milk with which we have to deal in Ontario has usually 13 per cent. of solids and 87 per cent. of water. I cannot pass without emphasizing the need of the cheese-maker educating his patrons as to the value of pure water. Let no cheese-maker neglect to send once a month a personal notice to his patrons that cows need all the pure water they can get, all the wholesome food they can eat; and all the salt they will take. It will pay you 300 per cent. to do this. I would like to point out the advantage to the cheese-maker of being a leader in agricultural thought. Cheese-makers have opportunities, which few other men have, of reading through the winter months. While most men are busily employed then, with them that is a period of enforced idleness, and if I could impress upon the young cheese-makers how important it is for them to get a little more information, to read, and to learn the best methods of keeping, feeding and caring for cattle it would be worth at least twenty millions of dollars to the province in five years. That is the intelligence we are most in need of in our province. We want the cheese-makers to take the lead in this, and men with intelligence always get more pay than those without it at the same kind of work.

In milk thirteen pounds of the hundred are partly in solution in the form of sugar, casein, albumen, etc., and partly in suspension in the form of fat globules. Now, when milk is coagulated by rennet action every 100 pounds on the average will represent to you 92 pounds made up of water with sugar, albumen, etc., in solution, which are mixed with 8 pounds of insoluble substances in the form of casein and butter-fat. Milk is composed usually of solids dissolved in about ten times their bulk of water, holding in suspension from 3 to 5 per cent. of butter-fat. In the manufacture of cheese some of these solids are separated from the soluble parts of the milk and brought into the form of curd. How do they get into that state? By the action of rennet making certain constituents insoluble, as the white of an egg may be made insoluble by boiling it. Notice a point here. The condition of that casein when the rennet is added has very much to do with the quantity of cheese you can make from a given quantity of milk. Then the quality of it has very much to do with the condition of your cheese afterwards. This being so you should determine the condition of the casein before the rennet is added. This is not very hard to do. By getting very small wafers of rennet and testing one of these in say 8 ounces of milk, the time taken to coagulate would indicate the condition of the casein, just the same as if you put a larger quantity of rennet in a thousand pounds of milk. In that way a man can test the coagulable state of the casein before he puts in the rennet, and by this means settle a uniform time, or at least a known time, for coagulation. If these wafers become effective this summer you will have a useful rule for discovering the ripeness of milk. Another new and I think better method is now being investigated, and I hope to show its practicability during the summer by experimental work.

The cheese-maker should teach his patrons to give up the old-fashioned process of cooling milk. I dared not say that two years ago. Milk is cooled and put upon the stand, and the cool milk absorbs all the taints that may be in the air surrounding it. Airing is a better preparation for preservation. I think the milk for cheese-making should not be cooled below the temperature of the atmosphere. In the fall of the year educate the farmers to keep the milk as warm as 70 degrees during the nights, and then you will not have curds that will keep you at work until eleven or twelve o'clock at night. When a patron has properly ripened the milk you will have no difficulty like that.

Making rennet extract from week to week is objectionable, because the cheese-maker does not know its strength. An extract should always be diluted so largely that the globules in it will be evenly distributed through the whole of the milk. The extract should be diluted at least to the extent of one gallon to every three or four ounces, and should then be distributed through the whole mass by vigorous stirring. I have often noticed curds very irregularly coagulated from neglect of these matters. A common cause for this imperfect coagulation is the fact that the contents of the cheese vat are not left undisturbed. The contents of the cheese vat must not be disturbed or coagulation will be imperfect. Then the temperature throughout the whole mass should be uniform. This is often not the case when hot water is used for heating. I recommend using hot water rather than dry steam, but not so that the bottom of the vat will be warmer than the top. The time required for coagulation will vary according to the season. In April, as for May, the coagulation should be complete for cutting in less than twenty minutes. That will give you more cheese from a given quantity of milk, and a quicker ripened quality. To make clear, if I can, this matter of congulation, you will see that the first result of the coagulation of the casein by the action of rennet is dehydration. Dehydration is merely taking part of the water out of the solution. You have casein and water in solution. Now, when the rennet is added the very first thing done is that water is separated out from combination with the casein, leaving it insoluble. In addition you will notice that when it becomes solid the casein holds every globule of fat just where it found it. These globules of fat are so small that you cannot see them by the naked eye. You have in every cubic inch of milk over one thousand millions of them. As the casein takes hold it clasps these and holds them in place, so that you have now the casein and fat mixed with the still soluble portion of the milk which is called whey. The cheese-maker's business is to separate this soluble part, the whey, from contact with the insoluble part, the curd; the rennet has separated part of the water from combination with the casein. The next part of the process is to separate the water from contact with it. An economical means of separation is to first cut the curd in small pieces so as to let the water ooze through rapidly. The mistake was made some years ago of leaving it in large pieces. From a large piece of curd the water will ooze out slowly, but if it be cut into small pieces it will do so much more freely. As soon as these pieces are cut a skin will begin to form on each. To prevent waste you should always cut with the horizontal knife first. You will save two or three pounds perhaps in a common vat by using the knives in that way. The next point I want to make is that stirring is undertaken merely to help the separation further. The reason for stirring the curd is to aid this separation, not to bruise its structure. Then the stirring should be continuous from the time the cutting is completed. You may allow the curd to lie with the whey, after the horizontal knife is used, for five or ten minutes, but after the perpendicular knife is used the stirring should be continuous. Then the heat begins to contract the cubes of curd, and the contraction will squeeze out more whey. The heat should not be increased rapidly. If it be, the skin becomes so close in its texture that the moisture cannot get out. The temperature should not be raised faster than one degree every four or five minutes. That will give time to allow the temperature to be nearly the same on the inside as on the outside of each cube.

Many makers are all the time wondering at what stage and time they should get the pieces of curd out of the whey. It is far more important to know how and when to have the whey out of the inside of the pieces of curd. Then the dipping of the curd is not so important as the getting of the moisture out of the curd.

When acid begins to develop, the structure of the curd is still more contracted. The first evident action of acid is to take more whey out of contact with the casein. When a curd is pretty well "cooked," the texture is a good deal stronger. If you have acid beginning to act on the interior of a curd that is not pretty well contracted beforehand, the acid will tear the molecules from each other. The main thing is to have the curd so strong in its own structure, before the acid begins to contract it, that it will not be ruptured. A sour cheese is always a mealy cheese. The acid has so ruptured the curd that the particles do not stick together. Then the acid also renders the casein less soluble. That is one reason why a very sour cheese will require two or three years to cure properly, whereas, if you have cheese with just a sufficient amount of salt and acid present, it may be made to cure in from six weeks to six months. Then acid acts as a preserving agent. Gases are formed by the action of germs, which action acid will counteract. Lactic acid is almost always antagonistic to these germs.

The next stage of the process is the dipping of the curd, after the acid begins its action. This is done to separate the curd out of the whey. As to determining the time when this should be done, perhaps the test best understood by cheese-makers is the hot iron test. When the curd will show like hairs, from one-sixteenth to one-eighth of an inch long on the hot iron you may take this as an indication of the proper time to move the curd out of the whey, except in the case of the curd being very gassy. In gassy curds, the condition that promotes the generation of gas, is opposed to the condition that favors the development of acid, and *vice versa.* Therefore, I believe the secret of making good cheese from gassy curds is to promote the development of lactic acid. If you take the curd from the whey at too early a stage, the acid will not come on quite so quickly as it would in the whey. Therefore, I would leave the curd particles in the whey until these hairs would show at least one-quarter of an inch in length. Then put the curd through the grinder or curd cutter, not so much to blow the gas away by aeration, as to bring about a condition suitable for the more rapid development of acid. Now, hand-stirring should be just long enough to effect a separation between the curd and the whey.

It should never be engaged in as a means for developing strong muscles in the arms. I used to be foolish enough to stir the curd four hours. No man ever expends strength more needlessly than in wrestling with curd. After the hand-stirring is carried on so far that the whey has run off in sufficient degree, you should mat it and then you will have a fine-grained cheese. Some of our young men last year made huge mistakes in matting the curd too soon. Now, doctors' medicine is good sometimes, and the matting of curds is a good plan, but only when followed with discretion. It is never satisfactory when followed without discretion. After the curd is dry enough the packing should be close to maintain a uniform temperature. If you pack curd so close that you have four or five layers of the ordinary thickness together, you will help the development of acid. You can secure fine-grained cheese by this process of matting. I have examined a great many cheese which had fine quality without matting, but not with the same "crack" quality of richness with firmness of body. If you can please the man who buys here as well as the man who sells in Britain, your cheese will have a better reputation and command a higher price. Then when the matting has been effected comes the question of determining when the cutting should commence. The bugaboo of most cheese-makers is to known when there is enough acid. I think the safe plan is to go first by the sight. Men sometimes go altogether by taste or feeling. I think the best plan is to go first by sight, and then by feeling, taste and smell. I would like you to educate yourselves in that way. The peculiar texture passing from a flaky state into a leafy and stringy one is perhaps the best guide a man can have.

After the cutting is effected the curd should be aired fifteen minutes before the salt is applied. If the salt be applied immediately after cutting it will cause some of the butter globules to ooze through the curd, and hence you will lose more fat if you salt immediately after cutting than if you wait for fifteen minutes. The quantity of salt to use varies all the way from a pound and a half in April to three and three-quarter pounds in October per 1,000 pounds of milk. I do believe in putting a good deal of salt in October cheese. I have often realised that certain factories turned out poorer cheese in October than July. The lack of aeration of the milk and not using sufficient salt in October will in a measure account for that. The proper stage for the putting of the curd in the hoops needs to be determined. After the salt is applied it creates a harsh skin on the surface of each particle of curd. Then the harshness gives place in about fifteen minutes to a yielding mellow quality. If it be put into the hoops at that stage it will improve the union of the pieces. The pressing of the curd before the salt has time to strike through into each piece must be guarded against. After a certain time, harshness gives place to mellowness, and then you will find the curd to be more pliable and yielding, so that it will form a more compact mass. If it be left longer than that without being put in the hoops then you will find a number of three-cornered holes. Another reason why it should be put in the hoops at this middle stage is that the white whey of very objectionable and undesirable flavor will be more fully and easily expelled. Its taste is worse than vinegar and bad whiskey put together.

The pressure should be applied continuously, gradually increasing in degree until the full pressure of the lever is applied, at say from four to five hours after the curd is put in the hoops. The bandaging of cheese ought to be done carefully. Let that objectionable practice be given up, of putting nasty water on the top, for the sake of getting a rind formed. The first two hours' pressure has a great deal to do with the solidity of the cheese afterwards; and every cheese, without exception, should be turned in the morning after it has been pressed. The hoops should be taken off, and the cheese reversed in them and then it will retain its shape on the shelves. I cannot emphasize too strongly the need of turning the cheese in the morning. To pay attention to details like this is one of the hard things to do, but then the hard things when well done are the things that pay best. In this way it will pay the maker and give him at once a reputation. When the buyer comes to inspect, if there be ugly edges on the bandages he begins to look for faults. Now, on this mundane sphere if a man looks for faults anywhere he can always find them. Often you will find cheese are condemned, not because they are bad inside, but because of their bad appearance. They should be made pleasing in every way, and when a buyer is prepossessed in favour of the cheese, he begins by looking for excellencies. When in that frame of mind he will usually find some. The press cloths should be left on for ten days or two weeks, and then taken off some days before the cheeee are put into the boxes. The boxes should be made to just fit them, and I suppose not more than three boxes out of a hundred would be broken on their arrival at their destination. I saw a report at Smith's Falls of one consignment, of which not more than three boxes out of a hundred were landed unbroken in the English warehouse. If the boxes arrive in England broken, there is a loss equal to three times the value of the boxes entailed on somebody. In course of time that loss comes back on the patrons. Get a cheese that will command a good price and then put it into a good box every time. If I bought a lot of which the boxes were broken I should either throw the cheese up or else make the owner pay for new boxes, and I would like to see the buyers object to taking delivery of cheese in poor boxes. If the factory owners themselves refused such boxes the box-makers could fix a price for which they could make good boxes and then the cheese would be delivered in good shape. Every cheese should have on its side its weight stencilled and not pencilled. It does not take much labor or expense and it makes the lot more attractive. If you give the English buyers little extras in the way of improved appearances which they do not expect, they will send their orders your way. By giving heed to these matters, and then by endeavoring to act judiciously from day to day, following your own judgment, you will make your work and profits satisfactory. It is the intention, beginning at the end of April or May, to issue instructions to cheesemakers from Guelph, and any cheesemaker who wants these can have them during the summer by sending a post-card each month. I would like to have every cheesemaker interest himself in these, and we will be glad to be of further service to you in this way. Our institution exists to serve the country and the dairy department will to some extent serve it through these bulletins for you.

The President.—Now, gentlemen, I have much pleasure in vacating the chair, and in introducing Mr. Cleland, and, as Mr. Ballantyne says, as your President for this year you will have a man who has made money at dairy farming. I thank you for having given me the position, which I consider a very high honor, and, now that I am leaving the chair, for having elected me a Director. With Mr. Ballantyne, I have been twenty years connected with this Association, and I think we can both say we have done our very best to make it a success.

The President-elect, on taking the chair; said he esteemed it a very high honor, indeed, to be placed in the chair of this most important Association. I have always looked upon the dairy interest as the most prominent in the whole country. The county I come from is very well adapted for dairying, and I cannot deny, and will not, that we have prospered. I have said repeatedly that, in a good year for grain, the dairy cattle is the best stock in the herd, and in a bad year it is really the only stock we have.

The Convention adjourned till 7.30 p.m.

SECOND DAY—EVENING SESSION.

The Convention resumed at 8 o'clock.

The President called upon the Secretary. Mr. Chadwick, to read a paper by Governor Hoard, of Wisconsin.

The Secretary, in introducing the paper, took occasion to refer to the importance of the cheese industry, and to his connection with the Association, he being one of its organizers. He said when the organization was first instituted, they were in a feeble condition as regarded the production of cheese. I think I am correct in stating that the year previous to the institution of this Convention we had imported in the neighborhood of $300,000 worth of cheese to supply the home consumption. What have we heard to-day? That our export during the past year has amounted to $6,000,000 or $7,000,000. These are results which should make you continue to be progressive, and I am happy to say that, during the twenty years I have been a member of the Association, I have never met a Convention giving promise of better prospective results than on the present occasion. Mr. Chadwick then introduced the paper, which is as follows :

WHAT KIND OF A COW DOES A DAIRYMAN NEED?

Two Types of Cattle.—I am restricted to twenty minutes, and the cow is over six thousand years long. To condense this question into so short a statement is a work that I shall be unable to accomplish ; therefore, I will jump into the middle of it at once. Behind me you see two crayon sketches of two distinctive characters of cattle—on the left the Jersey cow, Matilda 4th, that has made in one year more than her weight of butter, or over nine hundred pounds ; on the right, a Hereford cow. Both are drawn from photographs.

Form Everything to Purpose.—Now, the question comes practically to the farmer and the dairyman, seeing these two machines, and observing differences of form or shape, why is it that with universal agreement one machine takes one shape and the other machine takes the other shape? It may be answered, "Why is a sewing machine different from a reaping machine or a threshing machine?" I repeated to you last night the remark of El Hassan about the horse, that "form is everything to purpose," and if I could get the farmers of Wisconsin to indelibly burn that simple statement into their minds, I would put into their possession the key to all their future success in the handling of farm animals.

Temperament.—I base, in my studies, the dairy function in cattle upon temperament, and temperament produces form. I stand before you to-day a man of nervous-bilious temperament ; and men of my temperament almost universally are of like form and characteristics.

Another man stands before you, with a short neck, short, thick fingers, heavy jowl, and heavy build, and he is the product of the lymphatic temperament. Now, temperament shapes form, and form shapes function. The race horse in horses, the fine wool sheep in sheep, the hunting dog in dogs, the dairy cow in cattle, are the products essentially of the nervous temperament.

The bull dog in dogs, the draft horse in horses, and the beef animal in cattle, are essentially the products of the lymphatic temperament. So you see that by going back first physiologically to the beginning of things and taking temperament to build upon, you have a start by which you can determine the reason why function swings one way or the other. Then carry that out right practically a little further and you will see that if you breed for the dairy you must breed to temperament, if you breed for beef you must breed to temperament, if you breed for draft you must breed to temperament, and if you breed for speed you must breed to temperament. Consequently, the man who would cross the animal of one temperament with an animal of another, would be simply making hash of temperaments, cutting them up, putting two warring temperaments together, and he would have no results, or, at best, contradicting the results of the function of the animal. Why not go back and reason in these things physiologically?

Laws of Heredity.—The mischief with our farmers is this: They have no clear understanding of the laws of heredity. I heard a man stand up in an institute and say he commenced with Shropshires, then crossed over to Merinos, and then back to something else, and he said: "I haven't a sheep worth a continental." He made hash.

Heredity is the line of descent in the parents. People look at their children and wonder why they are so much unlike themselves. They are not the only parents of the child; they are the last parents, that is all. The child has thousands of parents, and it is the antecedent parentage of the child that marks its character a thousand times more the last parentage. This we call heredity.

A few men have been intelligent enough in this world to adhere strictly and closely in a physiological sense to the laws of heredity. Think for a moment of the value and power of heredity. Take it in dogs. Here stands a fox hound, the product of one heredity; here stands a bird dog, the product of another heredity; each dog is bred essentially, for a special power, to run and smell. The bird dog, with a nose as sharp as the fox hound's, will cross a dozen fox tracks and never know it; because his heredity is not in that line, and his discernments do not answer to that purpose; but the moment he strikes a bird track every single muscle in him is stiffened, and you see the whole answer to the hundred years of breeding in the attitude of that dog. The fox hound crosses a dozen bird tracks and never knows it. The moment he strikes a fox track up goes the nose and out comes the mouthed assertion: "I have found it, I have found it." Found what, Mr. Fox Hound? "Found what I was bred to find."

Is there a boy in Dane county to-day foolish enough to go hunting birds with a bull dog? No, but his daddy will hunt for butter with a beef animal.

When we, as farmers dealing with these animals, refuse to be wise and fructify our intellect with this knowledge and judgment, then we stand in our own light and deserve nothing better than what many of us get. We all need the light that comes from thinking and from knowledge.

Physiological Law of Form.—I will spend a few moments in giving you what, in my judgment, is a distinctive physiological law of form, and try and give you a physiological answer for every point that I believe applies to the dairy cow.

Beef and Dairy Forms.—You discover the difference in outline between these two animals. Here is a square block or a parallelogram, with legs at each corner. This is the beef form. Remember at the start that this other animal is a mother and clear down through the whole of your reasoning and studying, above any breeding, feeding or handling, must this one question of motherhood stand with the hand on the throttle all the time. She is the type of bovine motherhood. The beef cow is the type of the miser. The dairy cow takes food and gives off lavishly and liberally each day another form and amount of food. The beef cow takes the food and stores it up and refuses to surrender it until placed on the block. For this purpose we have this form, and for the dairy purpose this other form, and these questions of form generally lie at the bottom of functional performance.

The Motherhood Type.—Now the motherhood type is almost universally formed and built in the nervous type of character; large expression of motherhood function comes from that form of build. On the beef side of the house, we have a bullock of the feminine gender, and consequently this animal surrenders motherhood in the breeding of her young and breeds for the bullock type.

The General Purpose Cow.—She cannot help the issue, and if the dairymen of to-day who are clamoring for a general-purpose cow would stop and think what a general-purpose cow is, they would see that such a cow must be bred from beef lines to get size, and size means extra cost for the support of the frame that they don't want, in order to get a little milk that they do want. Therefore, it is not an economical build.

The Nervous Temperament.—The nervous temperament invariably produces, I said to you, a certain form of construction. What do I mean by nervous temperament. Men and animals are divided, men particularly, into nervous, lymphatic, bilious and sanguine, four basic temperaments. Then, we have the combinations, nervous-bilious, nervo-lymphatic and so on.

But with animals we are building for specific results, reaching into the future all the time, not building for to-day or for the present.

Take myself, for instance. I am a man of nervous-bilious temperament—I don't mean nerveless. People misunderstand this word "nervous." They think it means excitable, fearful, timid; nothing of the kind. See how you contradict yourself when you say a man is a man of nerve. Do you mean he is nervous in your sense? You mean a man who has nervous power sufficient to control his nerves, not muscular power, because the nervous system lies at the bottom of all systems in physiology.

You can't fatten a man like me, and it is just the same with this cow. By virtue of temperament, food must be expended in certain lines of force, not in accumulations of flesh.

The nervous temperament in dairy cattle starts in the brain; the brain is the seat of all temperaments, but particularly is it the seat of the nervous temperament. Therefore, the brain and facial outline, the neck outline, the middle piece outline, all of these are important as indications.

Points of the Dairy Cow.—Muzzle.—The dairy cow should have a wide muzzle, because she is a large eater. She must have a wide nostril, because she must be a large breather; the lungs have a great deal to do with the purification of the blood, the maintaining of the character of the blood, and milk is a product of blood.

It is claimed, that if you were blindfolded and given a drink of warm milk and another of warm blood, you couldn't tell the difference, and whether that be true or not, milk is essentially a secretion from the blood, and the breathing power has a vast deal to do with the vital character of the blood.

The Nostrils.—Should be wide, the jowl strong and muscular, but lean and free from all indications of superfluous flesh.

The Eyes—Should be very full and intelligent and active, of a quick and lively expression. The eye is an unfailing indication of the tempermental character of the brain, and should be bright, indicative of quick comprehension, standing out very full so as to make dishing expression to the face.

The Brain—Should indicate fulness. So you see that you have here a very delicate piece of work, and those of you who think that you can take this delicate machinery and saw off the horns and expose the inner chambers of the skull and not injure the nervous temperament, had better go slow. You may deal that way with your beef animals, but not with my dairy cattle.

The Neck—Should be thin, muscular. The spine is a continuation of the brain, and should rise full from the head. It is a good sign to see it extend above the shoulder blade.

The Back Bone—Should continue strong, full and rugged, indicating unusual strength and size of process. The hips should be full and wide, long from the hip to the point of the rump. When we come to this point we commence the study of the maternal machinery, the office for which the cow was built. You must remember that you make merchandise of her maternity, of her motherhood. Treat her like a steer if you dare, and your pocket tells the story.

The Pelvic Arch.—Here we have the pelvic arch. This is a very excellent sign in a cow. It indicates strength of the pelvic organs, wherein lie the offices of maternity; it also indicates a very strong, full rise of the spine.

The middle pieces should be very large and very full, indicating a large power of digestion. The ribs of the dairy cow are wide and the space between should be wide; the ribs of a beef cow are much closer set and the rib springs out horizontally in order to form a place to lay a loin. The dairy cow should not be handicapped with extra weight or superfluous flesh.

The Butter Gland.—Right here at the flank is a little combinations of muscles, called by some the butter gland, it rolls under your finger like a lead pencil, and, as a rule, you will find it in excellent dairy cows, and particularly in good butter cows.

The Flank and Tail.—In a good dairy cow the flank should be thin. In a beef animal it should be thick and heavy. In the dairy cow the tail should be long, indicating a full, strong spinal construction clear through, and that indicates a powerful nervous organization.

The Udder.—The mammary gland, or the udder, should have good shape, high behind, reaching well forward upon the abdomen. The cow, Mary Anne of St. Lambert, has the most marvellous udder I ever saw upon a cow. She is thirty-three inches in the medial line of the udder and twenty-four inches is a good long line in any cow. A good udder should not be meaty and thick, because then it is inclined to garget. The inner formation of the udder of a cow is very elaborate, and the more solids there are in the milk the more danger there is of garget, and the more wisdom and care you must exercise. That is the reason the Jersey is more liable to garget than other cows.

Constitution.—A cow must have constitution, but should not be hardy, in the sense that I hear people talking about a hardy cow. I often think how little they understand the significance of the word. You must not call upon the dairy cow to be hardy in the sense of bearing your neglect. She is a mother, and as a mother you must treat her with motherly conditions. What are they? Warmth, the first thing. A dairy cow cannot secrete milk if you force her to be chilled.

Formation of the Navel.—The best indication of constitution that I know of is in the formation of the navel. I ask every farmer here to go home and look his herd over and find me a single cow of large performance that does not show a very strong full development at the umbilical or navel point. A strong conformation here means constitution, vitality, power of endurance, within the line of heredity and her natural functions. Constitution cannot be trained into a man, neither can it be fed into him; it must be born into him. Therefore it is that which you take from your mother.

My attention was first called to this by seeing a regular army surgeon reject men for the army. I saw him turn off men who were strong shouldered, heavy lunged, straight limbed, perfect looking men, and I was astonished and I said, "Doctor, what is your reasoning?" and he showed me the weakness of the man's construction at the abdomen and said: "That man has no endurance or vitality; the moment you put him into the army service, he will go down." He told me also that he had carried this theory farther in the study of animals, horses particularly. I took it up in connection with a study of the cow, and for fifteen years whenever I have seen a cow of large performance, I have looked to this point and I have failed to find a single instance in which a large performing cow did not show well at this point. This is the channel through which support comes to the offspring, and if the offspring is largely supported, they show a full conformation.

The Nervous Theory.—Now gentlemen, I want to call your attention in confirmation of the nervous theory to the udder and then I am done. The mammary gland is a complete network of cells and nerves. A marvellous combination of nerves surround this whole udder as a net-work, which is called the sympathetic plexus. From that the nervous system proceeds directly to the uterus, and from the uterus to the lumbar region of the spine, and from the spine to the brain, and here is the combination, a current that governs this milk function. Milk fever sets in, starting with a chill, it is a nervous disease. The nerves telegraph to this great secretory organ, "stop work," and the disease commences to spread, passes along the sympathetic plexus until it strikes the spinal marrow, and the cow drops, the spinal marrow being involved. Now, it begins to show its effect as it approaches the citidal of life, and by and by it strikes the brain, she swings her head from side to side and dies a victim to her own maternity, and thousands of times to man's ignorance and stupidity.

If you understand clearly this physiological action of the nerves in the production of milk, would you treat the cow as a mother, or would you treat her brutally? Would you give her cold ice-water to drink when any intelligent understanding of the function of motherhood knows to the contrary? Would you give her cold barns to live in; would you give her food calculated to produce a flow of milk, or would you treat her like a bullock?

These are questions that come out of an intelligent understanding of the dairy cow, and the kind of a cow a dairyman should have.

Prof. Roberts.—I have experimented a little in regard to finding out something of the effect of disturbing milk cows. I find they vary very much. They are susceptible to external causes. For instance, we have taken one of our best cows and invented various devices for frightening her, by chasing her with men with blankets over their heads, and even with a man on horse back; and then tested the milk for quantity and quality. This was done about 9 or 10 o'clock in the forenoon, of course after the cow had been milked in the morning. On investigation of the case, we found a very marked falling off in the milk. In the second case, we took a cow that, so far as we knew, was equally good and giving a large mess of milk. We treated her in the same way. She was of an apparently different nature; that is different in susceptibility. We could not get this cow so much excited as the other, but we did run her considerably, and I am free to say it made very little difference on that cow. Apparently it did not have the same effect, although it had some. I am inclined to think that the individuality of a cow is so great, that she controls to a very great extent the production of milk and butter. Now, we have dehorned some of our milk cows. We have dehorned twelve of them. In nine of them we could see no preceptible change in the milk, and no apparent diminution in the flow. Now, it is strange that we should perform an act, which men without a knowledge of the effects denounce as brutal, and even say that men should be restrained by law from doing so brutal an act to their animals; and yet that there should be no change in the cows, and positively not in the amount of their milk. In one or two cases there was an increase, and that is no doubt due to the operation. With the other three cows there was a diminution of from a quarter to half a pint of milk per day per cow.

Mr. Chadwick.—With all due respect to Prof. Roberts, I cannot help but think that there must be some different results from so unnatural a proceeding as that of dehorning cattle. It looks to me to be contrary to nature, or else that great Creator who has retained things according to His wise Providence should not have caused these horns to grow on cattle. Tell me why is it necessary that they should be dehorned, that nature should be defiled, and this, to me, brutal operation performed?

Prof. Roberts.—This is the kind of discussion I like, because friction means growth. When the particles that are in our system, or in a plant, fail to infringe upon one another, death ensues. Then we proceed to burial. That is the value of these meetings.

It is when we strike against one other that the fire flies. As I look at my venerable friend, who is able to teach me, whom I have respected for many years, and whom I count one of my very great friends in Canada—one who has fought my battle for me when I was under a little cloud—I notice he has let the razor touch his face and has shaved his beard off which the Lord gave him. (Laughter.) Gentlemen, I throw these facts out on this audience that you might think. I don't say I am right. I don't believe he is right altogether. I do know, as an experimenter I should go on. These domestic animals are given for our benefit. We perform many operations in various ways upon them that are far more painful than the act of dehorning them. What for? For the dairy use. We take a dairy cow that gives 1,000 lbs. of milk a year, and by selection of grade and feeding we make her give 20,000 lbs. of milk a year, or twenty times what the Lord made her give the way He made her. We made her over 19 times—(laughter)—and that cow is attacked with the milk fever, but who ever heard of a cow giving 2 pints at a milking having milk fever? If there is the least stoppage of the milk system, it immediately affects the brain, and causes milk fever, which is a fearful thing; and we are responsible for this as much as we are in other things. In dehorning cattle, when the knife cuts, the horn is simply obstructible, with almost no nerves. It takes about three seconds to cut it off. In a week or two at the utmost the entire opening heals over. It is always a very little tender. Now, why do I dehorn our dairy cows? Simply because in hitting one another they injure themselves, and I think, during their lives inflict ten times the pain that I do in dehorning them. I think it is a real operation of mercy. I have watched for years before I could cut a horn off, my dairy cows, and while it does cause a shudder to take a saw and cut three seconds, you must come to the conclusion that you are doing a real act of mercy.

Mr. CHADWICK.—I am very happy to hear this explanation of Prof. Roberts. If you gentlemen have a tooth-ache, you don't like to lose your tooth, but rather than suffer you have it taken out, but this is contrary to nature. It is only one of those resorts that you apply to from necessity. If anything ails the cow's horn perhaps it is necessary it should be removed, but don't make that a practice. My own feelings are in repugnance to that system, which seems to be prevailing among our friends on the other side, and to me appears to be opposed to the laws of Providence.

Mr. BALLANTYNE.—What about Polled Angus and Galloways.

Mr. CHADWICK.—God in his wisdom has created them without horns, and they don't need to be taken off.

Mr. PIERCE.—I would ask Prof. Roberts if he has had any experience in dehorning calves?

Prof. ROBERTS.—Yes sir, have made an effort to dehorn calves when they were about two or three weeks old. We took the incipient horn when we could discover it nicely, and my opinion is that it is a more painful operation. You must go so deep; you must remove all the surrounding growth from the skull, and apparently it gives a calf more pain than it does the mature animal. We have several cows in our dairy that had the butts taken out when they were young, and usually we did not succeed. We did succeed in dehorning in such a way as to make the horn of little use as a weapon of offence.

Mr. LEITCH.—How long would it take to breed up cattle without any horns.

Prof. ROBERTS.—One year, but not the kind of animals we have. The horns must go.

Mr. LEITCH.—I agree with Prof. Roberts in the desirability of having cattle without horns, but favor bringing that about in the natural way rather than going through the dehorning operation. It is a well-known fact in the history of Scotland that if you take 150 years ago, cattle had horns then which have no horns now. There are two distinct breeds of cattle that have been produced as "moolies." I have seen specimens here in Canada, and I believe if a good breeder would take hold of them and put them together he could soon rear plenty of cattle without horns. I agree with Prof. Roberts that they are a great nuisance. I had one cow killed by another attacking her before I could get to her. They are very vicious sometimes, and I often think of the great thoughtfulness of these people in Scotland and England that got rid of horns altogether in the natural way, and I believe it is within our province to produce the same result and have a breed of cattle raised to suit ourselves. I don't believe that cattle have come to that perfection, but what there will be a great many different breeds raised to suit this climate, just as it is in England. I believe that the cow of the future, when we come to be a little more civilized, will be without horns.

Prof. ROBERTS.—The cow will not have a horn and the dairyman will not have a dog.

Rev. Mr. CLARK.—Perhaps it would not be so necessary to saw off the horns if the dairyman would abolish dogs now.

PAST, PRESENT AND FUTURE OF DAIRYING IN ONTARIO.

Professor Robertson addressed the Convention on the above subject. He said:

Mr. PRESIDENT AND GENTLEMEN,—Allow me, in beginning my remarks, to congratulate yourself and the Association upon your being elected to the presidential chair. Many long years I have been watching your interest in the Association's work, and I am glad that it has recognised your efforts by making you its chief officer.

I will not detain the convention long to-night. I dare say you think I have spoken much too much, and now that I am going to speak on this subject you may be looking for a rehash of all the dairy literature of the last fifty years. You will not get it. The history of dairying in Ontario, as this Association appears to have promoted it, is a very short history. It is all modern history, not much more than twenty years old. About twenty-one years ago the very first cheese factory on the co-operative plan was established in this province, so that our co-operative dairying in 1888 attained its full majority. That thought suggested to me the desirability of reviewing the past, and examining the present in the light of our past experience, with an eye to our future possibilities and competitions.

I want to speak very briefly, and I want to give this Association credit for having done the most that has been done to foster the co-operative cheese-making system in this province. Till the parent Association of these three that are now in existence, the Eastern and Western Dairymen's Associations and the Creameries Association, took hold of this business the whole dairy industry languished. Since then we have had constant, gradual and gratifying progress. The value of these Associations is not confined to the dairy industry, or the dairy interests. The lessons we have taught the farmers of this province are the lessons of possible results from co-operation. We have been impressing farmers all through this province to co-operate for their mutual benefit, and in that way we have done something for our province worthy of our existence as an Association. The possibilities from active, general, hearty co-operation are incalculable. The cheese factory is a model of co-operation—the model upon which most co-operative associations for farmers can best be based and organised. Dairying has done for the farmers of this province what could not have been done without it in this direction. The sphere of each farmer is—well, I suppose, to make money if he can. The sphere of the farmers as a class is to produce food for the race, and the farmers cannot produce as much food from their land without the aid of dairy cattle. The plant is merely a contrivance of nature wherein and whereby the energy of the sun is stored up for men hereafter. Men are so constituted that they cannot use all the energy which the sun has stored in the plants grown for food by direct consumption. They can use the grain, and the cow can eat the balance—the stalk and the chaff—and thus we expect to make our land more productive of good food. So long as any tribe of people grow plants, roots and fruits only, they are just on the confines of barbarism, and as they emerge from that state they employ other methods of producing food upon the farm. The cow is an animal contrivance in nature whereby the unsuitable, unpalatable, and to man indigestible parts of the plants that the farmer grows can be translated into food. So, to sum up, dairying in the past has given value to an invaluable food supply, and thus made it possible to support a larger population per acre. Therefore, if you make it possible to support a larger population you make it possible to employ a larger number of persons, which does good to every class of society. Dairying has restored the fertility of many farms, which is an item in our national prosperity that no man can afford to overlook. It has increased the earning power of the farmers, and has put a marketable value into their fields, worth at least $50,000,000 in our province capitalized within twenty years. I mean by that, that the farms of this province that have been supporting cheese-factories—farms that are within three miles of a factory—will sell for that much more money to-day than they would sell for singly and collectively if they were twenty miles away from factories. Then dairying has added to the direct income of the farmers without lessening the production of other saleable products. Having done that it deserves some credit and a little more study. I know these details are a little dry to cheese-makers, but I was talking in the afternoon about what should be factors in cheese-factories. My sole object to-night is to see how dairying can become a factor with the farmer. The cheese makers should understand enough of this aspect of it to guide them in the recommending and use of it in time to come. So much for what dairying has done in this province for us. No single item of exports has done so much to aid the province at home. Abroad it has done us as much service, and has brought into our midst emigrants of the best class, with capital and farming skill, to develop our country. This record is fairly creditable, fairly gratifying, and full of advice.

After reviewing the past, let me for a moment examine the present status as to the production and profit in this business. The production is enormous, and mere statistics convey no adequate idea of it. We have in Ontario over 770 cheese factories managed on the co-operative plan, supported by over 41,000 patrons, receiving annually the milk of 260,000 cows; and that out of these 41,000 patrons, there are over 5,000 patrons who furnish us milk for less than three months annually is not a creditable showing. I wonder how these 5,000 men make money from their cows during the other nine months. I think a man who will patronise a factory for only three months in the year, as a rule could afford to pay a man $10 a head to dehorn his cows ten inches behind their brain. (Laughter.) Then, the average yield per cow of the best milking herds which furnished milk to factories last summer, taken from an average of 86 factories, was just 3,500 lbs. The average from those yielding the smallest quantity per head was, last year, 2,235 lbs., the time extending for six months in both cases. Now, what is the matter with these 2,235 pounds cows? Cows are improved, and are, as all other things we have of value to-day in this civilized age, largely the product of the man's brain. I was struck with a queer repartee some time ago, by a man who had built a cheap silo. He was asked, "But did'nt you put something else into your silage," "Well," he said, "nothing but brains." I want to say this, that every thing we have that is artificial, is a concrete representation of somebody's thought. The dairy cow is the child of some man's brain. If we have poor cows we have had poor brain work; and the man who has poor cows either does poor brain work, or no brain work at all. Therefore let us get that into the stables, into the yards, and we will have more profit from the factories at the end of the year. The powers of a cow are inherited, and are affected quickly by feeding and by handling The inherited powers of value come from feeding and handling in the past. Therefore beginning with the best that we can have, it is every man's duty to leave the cows he has somewhat better than the cows he began with. I do firmly believe in the evolution of something good, and in helping that on by having something better this time this year than we had this time last year; keep the best animals you have and from time to time select good ones from other herds. Constant improvement in this way will give us more profit and leave us more intelligent men. Not to detain you longer on that, I want to mention the status of our way of feeding these cows. At the present rate of feeding it requires in our province the fodder from five acres to support one cow. That is not making money very fast, and that is not making food in any large proportion per acre. Now, instead of that, if you would adopt the better plan of having less pasturage of a kind that will only support your stock for a small portion of the year, and more of a kind that will support them for a longer period, you will get better results. Under the present system you cannot expect to have more than four months pasture at the best. It does not pay to have a large pasturage area with only four months pasture on it for stock. Therefore let us have a reduced area of pasture and a larger fodder area, and by growing oats and pease and corn—as recommended in the address to-day, to be matured—you will find it possible to produce on one acre a great deal more of food than one cow can consume in twelve months, giving you 8,000 lb. of rich milk. On the corn question I only want to say this: corn which will grow to near maturity before frost comes is required, and corn that will grow a large crop to come to maturity before frost comes is the crop to be desired. I want to emphasize the necessity of having the largest variety that will mature. I want to emphasize, too, what my friend, Mr. Lane, said at this meeting; that when feeding cows on fodder corn it was best to supplement it by adding bran thereto, and that with a given quantity of bran he found the increase of milk was so great that he had $2.43 more than he paid for the bran in one week; then so much for the food. At present we have a very convenient way of watering cows. We allow the cows to water themselves without any care on our part whatever. It would pay a man who keeps twenty cows to hire a man for the express purpose of watering his cattle. It would pay better than to allow them to do without the water. Then we do not attend to the salting of our cows. Only every fifth man has salt before his cows all the time. The other four-fifths salt them about once a week, and to save time do it on Sunday afternoons. (Laughter.) Then in feeding, they get up in the morning and go to the stables in cold weather and rout their cows out from a warm bed to make them eat something before daylight. They go back in two or three hours to make them eat something more. If it were not for their strong constitution they would kill them. By pursuing a more rational system we would have to work less ourselves and would realise more profit. Feeding twice a day in the stable is often enough. Then the cows of the province have no shade in the summer. It is now almost impossible to mention the variety of ways in which we can affect them. Sometime when I bring the cheese-makers in convention, in March, four of which conventions I expect to hold in western Ontario, I will try to bring the matter before you so that you will have some idea of how milk may be improved by the cow from her care and feeding. Then we try to get solids in the milk by leaving some of these in it that do not come through the udder. Then milk should be aired. A great many people believe in doing this by airing a cow in the winter behind a wire fence. (Laughter.) If milk is tainted, it is almost always when the airing is neglected. You want to emphasize and continually impress upon your patrons the need of *airing*, and that in this process the milk is seldom required to be cooled. Again, our factories' equipment is not good, and joint stock companies do not seem disposed to remedy this. We want to have four or five of these tumble-down—ramshackle places knocked into one—those little one-horse affairs. Let us have larger factories, where the work can be done better at less expense, and you will have larger amounts of good cheese for shipment. Then we want better men. Our sole aim too often is to hire workmen run a factory at $12 a month. You want to get men into the factories who have aspiration to be something; men who will take an interest in the factory, because they want to make it a centre of influence in the locality, and having that for their aim they will get more remuneration for their labor. A skilled cheese-maker is as much entitled to pay for his skill as a lawyer or doctor. When a man takes half an hour to do a thing he does not charge you at the rate of so much a month for his time; he charges you for his skill, which it took him time to acquire; so cheese-makers should be paid for their skill. In that way you will soon differentiate between the skilled and the unskilled men. We need more skill. We have bragged about our reputation so much, that bye-and-bye we will begin to forget our characters. In this way I think our cheese reputation is so extravagantly contemplated that the character of our cheese is in danger of being forgotten.

Now, a few words in regard to the future. I do not want to stretch for fifty years, but just to deal with the possibilities of the next five years. If every man who is a cheese-maker will do his level best to improve the kind of cows his patrons keep we will get cows inside of five years which will give twice as much milk on the same bulk of food, which can be produced on half the cost. You will find the profits will be rolled up into three or four times more than they are now. We need to encourage patrons to keep more cows. A man on 100 acres who keeps ten cows will sell more other products than the man who keeps five cows, and the man who has five cows will sell more other products than the man who has no cows. Every cheese-maker should study and know what a man means when he says silage. I do not believe half the cheese-makers can tell you what silage means—whether it is a new name for a cheese press or feed for calves. (Laughter.) The makers need to understand the internal mechanism of a cow, to go to the butcher's slaughter house, if need be, and see. Then they should read and tell the farmers. We need the cheese-makers to encourage winter dairying. In that way they can find work all the year around instead of five months of the year. There is no use of us striving to make Ontario into a butter producing country in the summer time, and there is just as little use of us trying to make Ontario into a cheese-making country in the winter. I believe we are specially favored for the manufacture of cheese, that we have as good opportunities for the manufacture of it, from climatic considerations as any country in the world, and that we can double our profits. There are nearly as many cows having their milk turned into butter as there are having their milk turned into cheese. There are at least 250,000 cows whose milk is made into butter, as against 260,000 whose milk is made into cheese. If the cheese-makers would agitate to have those 250,000 cows begin their milking season in the fall then the cheese factories could be provided all through the country with appliances for making butter from November to March, and it could be sent over to England then safely instead of being spoiled in transportation as is the case with butter shipped in the summer. If you could induce the patrons and farmers to have the calves in the winter they could grow the best calves and would make better winter cows and fattening steers. In that way you would fortify yourself so that if cheese were low for one year the increase profit from butter would more than make up for the deficiency. If that is done there is no reason why we should not have as large exports of butter annually as we have of cheese. We have not now, because 99 4-5th per cent. of the cheese produced is made in cheese factories, and less than 3 per cent. of the butter made is made in creameries. There is the secret of sending to England nearly one-third of all the cheeese she imports and only a very small percentage of her butter. If we would co-operate more in the manufacture of butter, in this way we would realize more from it, and in doing that cheese-making would become more remunerative also. Now I have done. I shall be satisfied if I have given you any ideas on the past, present and future of dairying; and I want you to take this away from the address at any rate, that every cheese-maker having now the knowledge and experience of the past should be better than the man who lived ten years ago; and so in another five years he should make progress until his then present will be better than the past years, and in doing that he will learn a little lesson from the past and present and so be better prepared for the future. (Applause.)

Mr. Leitch.—I am afraid you are trying to take these young men along too fast. If you make these boys produce double the quantity of dairying produce there is in the country to-day, where are you going to get a market for it? There is a possibility of the market getting glutted, and it was pretty near that stage last summer.

Mr. Chadwick.—There is not the slightest danger of a surplus of good cheese. There is only danger in producing that article which will not meet the requirements of the market. Go on and produce every pound of cheese that you possibly can, but let it be of first class quality. You will find a price for it better than anything else you can devote your energies to.

Mr. Casswell.—I think Mr. Leitch is doing this more in the way of a joke than anything else. As a proof of this, I can remember when he had only one factory, and cannot understand how he can have any fear for the future when he is buying up all the factories he can, and has been one of the most successful manufacturers in the west.

Prof ROBERTS.—The first butter I bought when I went to keeping house was placed in my cellar—nice golden butter—at 6½ cents. Last week before I came away I paid a grocery bill and bought butter at thirty cents a pound.

Mr. BALLANTYNE.—One word about this question of overproduction. While listening to this address it occurred to me that in the early stages of production in this continent cheese was confined to Herkimer and Oneida and extended to Canada. I remember when it was being introduced here by the late Harvey Farringdon, of Norwich, that that was the great question every one was asking—"Is there not a danger of overproduction?" What are the facts? When the manufacture was confined to Herkimer and Oneida they were making a profit, but selling at a very much lower price. It is true, like all other articles of commerce, cheese has ups and downs, but there is no article of produce—and I make the assertion with the true knowledge of what I am saying—that so soon regulates itself as cheese. There is nothing specially pleasant in milking cows in all kinds of weather, wet and dry, holidays and every day, to tempt any person to continue in the business unless it is profitable; and people would give it up pretty soon unless it was paying. It is true we have had periods of low prices. There was a certain amount of dulness over the commercial world—and possibly as Mr. Casswell suggested cheese was affected by manipulation—during the last season, but it is just about as high again. I noticed a communication in a Toronto paper about a statement made by Prof. Robertson, that we might look for cheese at eight cents. I did not notice the statement, but there will be precious little cheese made when prices settle down to that. We need have no fear of any such low prices. Another thing in connection with Prof. Roberson's address is, I cannot see how we are to continue winter dairying and cheese-making in summer, and I am not so sanguine. A certain amount of it may be done, but I am not so sanguine that this is the best system. We are so far doing more in cheese than in butter. We have increased the production of butter, but we have a surplus. In New York they cannot do anything with it. Old country people cannot pay the price for it. It is used for home consumption. We have not such large centres of population as they have in the United States and we can never expect, and will never get, so much as they are getting. Ours must come down to export basis. What do we find to-day? That buyers for export are not willing to pay more than sixteen or seventeen cents. We cannot compete with northern Europe in production of butter, because we cannot get it over in first class condition. Then we find artificial butter is being used every day more and more in the large centres of population. They take it; it is labelled as such; but they gradually get accustomed to it. There is a profit for a very limited quantity of butter, but we are not likely to realise high prices for a large quantity. At all events our neighbors on the other side of the line do not get such large prices as they formerly did in the large cities. So I cannot see how we can make cheese in summer and butter in winter. I would like to see it done, you know, to a limited extent, but I cannot see how we can combine the two. It is all nonsense. The fall is the time when we get the highest prices for our cheese, it is the cheese which has given us the reputation, it is the fine fall cheese which are being taken in England in preference to the great bulk of the English cheddar cheese. Well, if we are going to have our calves in the fall I do not see where we are going to get that cheese. It is not, in my judgment, the system of dairying that is suitable to our country under ordinary circumstances. If we had reciprocity of trade and could send our butter to the States and obtain thirty cents a pound no doubt there would be some such inducements, but we have no such inducement. Ours has to come down at once to an export basis if we are to produce butter.

Mr. CHADWICK.—What is the reason we cannot produce as good butter as the countries of Europe? It only requires being taken up to be brought to as high a standard as cheese. I know we can produce an article equal to any country in the world.

Mr. BALLANTYNE.—When we come down to business, as I said, those engaged in butter-making for export are not making it pay. The butter that commands the highest price is in the mouth of the consumer soon after it is made. If it has to go from this side before it reaches the old country it is considered stale. Allow me to tell you I am stating what I know to be the case.

Prof. ROBERTSON.—I think I have been reported as saying that dairymen need not expect more than eight cents for such milk as will make a pound of cheese. That is quite a different thing from saying eight cents a pound for cheese. Another point I want to make clear is this: I know too well the value of our cheese industry and our adaptation to that work, to counsel anything that would interfere with the production of cheese, or with the production of fall cheese. All I said to-night was to have those 250,000 cows calve in the fall instead of the spring, that by doing this you will provide extra milk from them for cheese factories and have an increased volume of profit from butter and calves.

QUESTION.—Does the dairy farmer, who also feeds a couple of steers, require a root house as well as a silo?

Prof. ROBERTSON.—I have no experience in feeding to fatten cattle. Men tell me that silage will fatten cattle. Therefore I would prefer to have the silage rather than the roots, and I would prefer that because the more silage I had the more cows I would feed and milk through the winter and the fewer steers.

MR. LOSSEE'S RETIREMENT.

Moved by Edwin Casswell, seconded by Rev. W. F. Clarke, and resolved: That this convention having learned that Mr. H. S. Lossee, of Norwich, has retired from dairying, hereby place upon record, an expression of its appreciation of his valuable services in the improvement of the cheese product of this province, his factory having always been considered one of the best, and very often visited for the purpose of seeing the latest improvements in cheese manufacture.

Mr. CASSWELL.—In moving this resolution, I do so with a great deal of pleasure. First, sir, because we have always had, from the inception of the association, the services of our friend Lossee. He has worked in season and out of season for its good, and without the expectation of profit. He has been a good and tried servant of the association, and I think it would be only a fitting mark of our appreciation of his services, to pass this resolution.

Mr. CLARKE in seconding the resolution congratulated the President upon his election to that position, pointing out that the association had rarely if ever, had one to fill the chair who combined in his own person the dairy farmer and the practical cheese-maker. Referring to the resolution, Mr. Clarke said he seconded it with a sort of mournful pleasure, because it reminded him that in the nature of things his own retirement must come about, and because he had looked upon Mr. Lossee as one of the fathers of this institution.

Mr. BALLANTYNE said his earliest recollections in connection with dairying, was in making, consulting and comparing notes with Mr. Lossee. Railway facilities were not so good then as they are to-day, and he remembered driving 50 or 60 miles to visit Mr. Lossee's factory. He then had the reputation of making the finest goods, and has continued that reputation until to-day.

Mr CHADWICK said he could hardly allow the resolution to pass without endorsing it, as one who had been identified with the association from the first, and had known Mr. Lossee as a member almost since its organization. In parting with Mr. Lossee, they were parting with one of their old friends, whose head had grown grey in the service.

The resolution was carried by a standing vote, amid applause.

Mr. Lossee assured the convention that this honor was quite unexpected. He had endeavored ever since the organization was formed to give all the information he possibly could to dairymen. They were well aware he had not contributed a great deal in talking, but he thought he had by practical observations. He again thanked them for the honor they had conferred on him.

A Voice.—Is milk from cattle pastured on wild grass just as good as from those pastured on cultivated grass.

Prof. Robertson.—Milk from wild land is just as good as from cultivated, if the herbage be sweet; in fact it is rather richer in volatiles. Otherwise there is no difference. There is a risk of bad flavors.

The Convention adjourned at 11.30.

THIRD DAY—MORNING SESSION.

The Convention resumed at 10.30 a.m.

THE QUESTION DRAWER.

Martin Kidd.—(1) At what time would you prefer grinding curds, at all times of the season—spring, summer, fall? (2) At what time would you have your vats coagulate, at all times of the season?

Prof. Robertson.—(1) In the spring I want not more than two-thirds of the acid developed when the grinding is commenced; that will be indicated by the curd just passing from the flaky into the stringy stage. In the summer time allow it to go until three-quarters of the acid is developed, which will be indicated when the curd has a stringy texture like boiled corn beef. In the fall of the year go just a little further—allow it to form into strings, and let all the acid develop before grinding. (2) Now, you want to apply your common sense to my answer. I cannot give a definite period which will always apply. I think in spring, before the middle of May, fifteen minutes after the rennet is added. Later in the season forty-five minutes at 86 degrees of temperature will give better results. Let me say here, however, that during the coming summer I propose to test the action of rennet if possible. But I recommend always using as little rennet as possible, so as to get coagulation inside of forty-five minutes. In the fall of the year I would also have coagulation come inside of forty-five minutes.

Martin Kidd.—Please answer the following questions:

(1) What kind of rennet would you prefer?

Prof. Robertson.—As a man who may be considered impartial, I prefer not to name any brand of extract. I only want to have it of known strength and merit, and then I want to get that just as cheaply as I can buy it.

(2) And what kind of salt and what brand do you think best to use?

Prof. Robertson.—When I was speaking at a Convention at Oswego the same question was asked there. My answer there was the same as here: The best brand of Canadian salt. (Hear, hear.)

James Alderson, Bulkhardt, Wis.—(1) Which is best for cheese, the peg or the knife mill?

Prof. Robertson.—Personally, I prefer some mill that cuts rather than a mill that tears; but, as was stated by Mr. Ballantyne, a man that is using a mill that cuts must be careful to put in hoops at the proper stage.

(2) What breed of cattle is the best for cheese?

Prof. Robertson.—Again I could not say. I prefer the Jersey over the Holstein. The best breed is the one that will change the largest amount of feed into milk at the largest profit to the owner. You understand, if any man wants to get information for his own service and comes and tells me the kind of land he has and the section of country in which he lives, I will tell him the breed best adapted to his circumstances.

(3) What breed of cattle is the best for butter?

Prof. Robertson.—Holstein cattle are not believed to be so good as Jerseys for butter. If I wanted to sell cream to cities I would keep all Guernseys or Jerseys. I would not keep Jersey cattle for cheese factories.

Question.—(1) What is the cause of milk apparently taking acid after the addition of rennet before it is ready to cut?

Prof. Robertson said in one section that had come under his observation the farmers forgot to salt their cows, and that sort of milk will sour very rapidly. I do not know any cause but that.

(2) What beneficial results are received by allowing the curd to rest after cutting with the horizontal knife?

Prof. Robertson.—The only beneficial results are that each particle becomes skinned over so that you have less waste when you begin to move it afterwards.

(3) Do you prefer the doors of the make-room open with the curd covered, to having the doors closed with the curd exposed to the air?

Prof. Robertson.—I prefer having the curd itself exposed to the air for a quarter of an hour before it is covered at all, when the hand-stirring is being effected. The matter of opening and closing the doors is of no consequence. What is of consequence is that it should be pure air, and if there is a danger of its being affected by foul air and steam, the doors should be opened beforehand. Do not allow the curd to be affected by draughts in the fall of the year. If the factory is ventilated beforehand and the curd is then worked up you get the best results.

(4) Is there any method of exterminating flies from a curing-room? Would burning limestone in the spring be beneficial?

Prof. Robertson.—I do not think the burning of limestone would affect it in the spring. It might after the flies are hatched into life. Flies are hatched into life from a chrysalis condition. The best way I think is in the spring of the year to get the curing-room good and warm before the cheese is put in at all, and then brush and wash the place. Then ask any druggist and he will give you a box of fly powder, which you can buy for 10 or 15 cents, and that will kill them. If you do that twice in the early part of the season it will rid the factory of flies. Then by keeping the windows very close you will find very little trouble in keeping the flies out afterwards. Before the cheese are put in, the curing-room should be fumigated by burning sulphur and spirits.

Mr. Caswell.—Do you think that some curing rooms may be made so close that cheese will be injured by being kept through the fall and winter months?

Prof. Robertson.—I think a cheese which stands in a foul factory, if it has a tendency to go off flavor, will have that tendency increased, which is largely hindered by the presence of pure air. Therefore, I would have every cheese kept in a pure atmosphere always.

A Voice.—Which would you say is the best way of testing the strength of rennet?

Prof. Robertson.—The only way you can do that I think is this: Get a small pipette—a small glass thing you can buy from the druggist as a rule with a bulb in the middle—put in eight ounces of milk into a glass, and add a certain proportion of rennet extract by the pipette. Afterwards you will know the proportions to use. Get the proportion about the same of rennet to 1,000 pounds of milk as it is between that used in eight ounces of milk.

A VOICE.—About what standard would this milk be? Would you have it a certain temperature? I would understand that the milk you tested would be the right sample for selling.

Prof. ROBERTSON.—That is the difficulty you cannot get over. You are never sure of having the milk in the same condition. Make the rennet during the winter months, and have it of uniform quality and known strength.

Mr. BALLANTYNE.—And then by using a calculation with rennet of a known strength you can tell the condition of your milk. Mr. Harris was the first to use that test I think. I think he found by experience that about the best condition to draw the whey was in three and a half hours. I have observed very carefully in that direction, and always found that milk which would take about that time would produce the best results. He called it the cup test. All who have been practising it, I find, say that it is about the best test. I do not remember the proportions; however, a cheese maker, if his rennet is of uniform strength, can very soon determine that.

A VOICE.—A teaspoonful of rennet to a teacupful of milk.

Mr. BALLANTYNE.—You would notice yesterday in Prof. Robertson's remarks about the practice of manipulating the curd after the whey is drawn off, that he recommended piling it up. Now, I know a number of makers who had not been making cheese that way and turned to that way, and whether it was that they had not "caught on to" the particular way of doing it or not I do not know, but it was a failure, and a gross failure in every case, and I know further, that the factories that are making the best cheese are not following that out, and I would recommend those who are doing well under the old system to go cautiously. If it is an improvement adopt it, but do not rush into these things. Those of us who know the history of dairying know there have been blunders made before in adopting new-fangled notions. Now, I have never seen better cheese made—I do not know how better could be made—than in some factories where there was not even a curd mill. All I can say is this: a gentleman who was a strong advocate of that idea visited a factory where he admitted the goods were fine. He pretended to say he had seen some as fine, but I had not. He said the milk was in good condition and that was the reason for the goods in that factory being so fine. I visited another factory where the cheese had been treated as Mr. Robertson indicated yesterday, and at thirty days they indicated a little better quality than those made on the old plan, but at sixty days they were stinking, while the cheese made on the old plan of stirring a little and matting were as good as ever. You know Mr. Arnold had that idea. He went to the opposite extreme and stirred it constantly, and left no moisture at all. The finest cheese that were together last year, and the cheese that Mr. Robertson had no hesitation in judging in Toronto and recognising as the finest, were not made upon any such principle. I believe of course in thorough stirring, and we must try to keep an even temperature, but not in this piling together. If it is right it has not been taught rightly. If it has been taught rightly the pupils have not been able to understand, because they did not improve by it, and the factories that made the finest cheese have not been making in that way. Now, I want the makers that have been making in that way to come forward if they have found any improvement. I am not saying it is right or it is wrong. I am telling you what is the case. Two years ago Mr. McPherson propounded some such theory. It was contrary to all our experience. I got Mr. Bell, of the Black Creek factory, to try it, but it met with the very same fate as I have mentioned. The cheese made in the old way retained their flavor and their character, and the other stank.

A VOICE.—I never could make a cheese on that principle.

Mr. BALLANTYNE.—And there are no cheese better than West Nissouri. I will back them against any factory in Middlesex.

A VOICE.—We have got rather mixed. We have got Prof. Robertson's idea that it is better to stir to some extent and then to mat the curd and pack it, and now yours that it is not a good plan to pack it close.

Mr. Isaac.—I quite agree with Mr. Ballantyne that where they have the appliances and have succeeded in making a good quality let them go on and make in the old way. The trouble with most makers is that in changing a little they change too much, and they do not get the curd dry enough before matting.

Mr. Ballantyne.—What I say is that they do not get on to this system rightly. I am not saying it is right or not right. I am only telling you the result. I have examined a very fine cheese now, and I would like to know how that was made; and we have examined another cheese made from tainted milk, and it is very good, but the color is decaying. Whether anything in the process may account for that I cannot say. I do hope we will pass a resolution strongly urging the Government to have two experimental stations, one in the east and one in the west. As he is situated at present it is not fair to Prof. Robertson, to the instructors, or to others, unless he is constantly making these experiments with rennet extract and salt and manipulation of the curd after the whey is drawn. It takes so little to make a difference in quality. With a little too much moisture it gets out of condition quickly, and with too little moisture you have a dry, hard cheese, so it is important to know the exact quantities, and I know of no way by which we can get uniform results unless it is by action similar to this—by the employment of instructors and by having an experimental station where experiments can be carried on from day to day and a record kept, and all engaged in the business informed of what is being done. We must put our hands in our own pockets. We might make money by employing one man to superintend a dozen factories. He would be a better man if he had the superintendence of ten or a dozen factories than with only one to oversee, because he would have the opportunity of seeing the difference in them. We are into this business. I know nothing likely to be so profitable in farming, and we must try and raise the standard. Others are making progress. As an evidence of that look at the market value. I remember the time when we got a cent to a cent-and-a-half a pound above Eastern Ontario. Do we get that difference now? We do not. Sometimes they get half a cent more than us, but most of the time the price is about the same. They came to see the cause, and corrected it. Others have made progress. We must make progress too. It is not by marking down the cheese-maker five cents on the hundred pounds that you can raise the standard. There are a few factories that are always in demand, and the difference they realise would more than pay the best man that can be employed. We have not, however, enough inspectors, and they labor under terrible disadvantages going into factories they have never been in before, but if there were more of them and factorymen would subscribe towards their employment, they would not have such distances to travel from one factory to another and could visit the factories more frequently. As to the cheese we have examined here they are merely cheese made at a certain time, under certain conditions, but they are. as tests, of no value to you. The only information would be to ask Mr. John Robertson how they were made. They are fair cheese, though a little off color.

Mr. Robertson (London).—We have reached now pretty nearly the close of our Convention, and while it has been an interesting Convention, I expect the "good wine" has been reserved till the last. What led us to undertake these experiments was that in the early part of the season we had more than the usual trouble with gassy curds. The only fault the Committee has found with the cheese is that it is losing color. The reason why it is losing it is clear. I had to keep the cheese under a cloth after it was matted for three and a half hours, and in order to keep up the heat had to turn up the cloth and sprinkle it with hot water to make the gas expend itself. I knew perfectly well that this was telling upon the color, but I was not experimenting as to how best to keep the color. I was testing how to dispose of the gas contained in the cheese; I was trying to find out the most practical way to handle a gassy curd. In the days of old when gassy curds were almost a thing that nobody knew how to treat, the common way was to give them a good dose of acid and plenty of salt, and somehow or another you would get a solid cheese, but when it was ready to dispose of you had a dry, hard, brittle cheese that nobody wanted. You had got rid of the gas, but had spoiled the cheese. The point to get at is to get rid of the gas and save the cheese as far as it is possible to be done. The next way of handling gassy curd was probably a little improvement. You would probably give it twice or three times the stirring of ordinary curd ; then you would grind it and give it another stirring and go through the same process again, until between grinding and stirring a good part of the cheese was stirred out of it and went away in the whey tank. The next thing buyers and makers found out was that that was very little improvement on the old style. Now, what I want to ask Mr. Ballantyne is whether the cheese he has seen, made, I think, from the worst gassy curd I ever saw, and tainted milk to boot, is any improvement on that produced by the old system ?

Mr. Ballantyne.—I am not going to admit that gassy curds were generally treated in the way Mr. Robertson described. The cheese in question is a very good merchantable cheese, just the color indicating decay of course. But I have seen floaters that it would have required an expert to have discovered anything wrong with, made in a different way. They were thoroughly stirred, and after the acid was developed a little they were exposed to the atmosphere. You remember that was Prof. Arnold's theory, and he held that in this way you could make a perfect cheese from tainted milk. He possibly went to the opposite extreme of making them too dry. With these that I speak of, instead of using extra salt they would use less. Now, what I would have liked, would have been, if Mr. Robertson had made up part of some vat in a different way, and that is what I hope will be done by Prof. Robertson next year in making experiments, because, that is the most important use to which the dairy department of the Agricultural College can be put.

Mr. Robertson.—I quite agree with Mr. Ballantyne that there were a few makers did what he said, but I do not think the majority of makers who were troubled with gassy curds, were able to produce an article such as Mr. Ballantyne has described. The way I handled this curd was this : I set only 2 ounces of rennet to 1,000 pounds of milk, and it took about 20 minutes before the rennet had any effect, and 45 minutes before the curd was ready to cut. Then I cut it quite a little bit finer than usual, for the purpose of having it more thoroughly cooked. The sooner you can get the whey out of the curd, the sooner you get rid of three-quarters of the taint and the other elements, that go to hurt your curd. Then I cooked it ten minutes longer than curds are usually cooked. It was scalded to the usual state, and when it was considered to be thoroughly cooked, we let it lie until it had settled down to the bottom of the vat, and probably half an hour it lay there ; after that it was dipped, and I think it just got one stirring after it was out of the sink, so that the whey on the outside of the particles of curd would run off and leave the curd perfectly dry. It was cut up into blocks and piled in three rows across the sink, and was probably four or five tiers high, so that it would be in the best position to retain all the heat that it had. I saw that it was going to lose a little of its heat, and then put a cloth over it and sprinkled it with hot water and I think that is what affected the color of it. The curd was scalded at 98 degrees to begin with, and about 5 o'clock in the afternoon the temperature was 96 degrees. It had only lost two degrees the whole day through, and it needed all the heat. We only put it through three or four minutes to mix the salt. With these explanations, I think it is worth while for you makers, when you do get gassy curds to experiment. You can rectify what is wrong to-day a little to-morrow, and to-morrow if you are not pleased go a little further next day and just find out from your own experience, handling and judgment, what is best to do, and every man has to find that out for himself before he is very much of a cheese-maker. (Applause).

Prof. Robertson.—I want to say a word. On the 13th of July the inspectors and myself went to the factory from which this cheese came, not to make any experiments, but to have a little talk on some more uniformity of method in regard to their work. We found that at this factory they had been troubled with gassy curd, and this experiment was suggested. Two vats were undertaken, and in one of them the milk was not matured properly. Six ounces extra of rennet were used to the thousand pounds of milk, more to emphasize the need for the use of more rennet than had been used at this particular place. These cheese were kept in a common curing room and not put in a cellar until the cold weather, and the cheese would sell to-day for ten shillings more on the cwt. in London than the other cheese. They were made in July and August and had a true mark on the boxes. I do not want the makers to run away with the idea that there is any conflict of either instruction or judgment in the method of making cheese between Mr. Ballantyne and myself. I want to put myself very clearly on this point. In all the instructions given by me to the inspectors and instructors, and in those given by the instructors at the factories so far as known to me, the instructions were founded upon experience gained from practice. For ten years I have matted curds, but never have I said that matting curds was an essential to making the finest cheese. I have always said that the *best* way to get the moisture out was the right method, and all through the season, even in writing to the instructors, I told them never to insist upon matting. but to insist upon getting the curds dry enough by cooking and stirring. You can make fine cheese without the ordinary mechanical conveniences, but to make uniformity in cheese when you have not the conveniences you need the system. The case has been cited that in Eastern Ontario the cheese has been improved so as to realise as high or at times a higher price than Western Ontario. Three years ago you would not find one factory in ten there that matted the curds to any extent and they got half a cent less than us the whole season. Now since this better method has been agitated you cannot find one factory in ten that does not do it, and three years have put their cheese equal in many cases to ours.

Mr. BALLANTYNE.—There is no place now where matting is not done.

Prof. ROBERTSON.—I would like some of these men to come on this platform and say whether they found on the whole the finest cheese where matting was done or where no matting was done. I want to make this clear—that the matting of curd is not an essential condition ; it is an advantageous treatment. Another thing is that we need to have the coagulation perfect. Now, if you will take those two points home and act upon them you will succeed in keeping the curds right in the fall. Mr. Ballantyne has the impression that matting injures cheese.

Mr. BALLANTYNE.—Not matting, but the piling of it together.

Mr. B. HOPKINS.—Like a dung-pile.

Mr. BALLANTYNE.—Exactly.

Prof. ROBERTSON.—No man can afford to make cheese and then trust in piling of the curd unless the conditions are right before.

Mr. BALLANTYNE.—The makers who were filled with this plan represented it as an essential part of cheese-making and the result was a great failure. In regard to this question of prices east and west, I had to do with these things when Prof. Robertson had not, and it was not a question of matting at all, but a question of getting makers to try the plan adopted here. We had had the same difficulty here. Mr. Harris had been making an effort to draw the whey sweet, and he was engaged by the Dairyman's Association as inspector, and it was the slight matting that was adopted afterwards, but not the dung-heap principle as suggested by Mr. Hopkins.

Prof. ROBERTSON.—I do not like the idea of "dung-heap" being applied to cheese in any form. The matting of curd is to preserve the temperature in order that it may ripen and reach certain conditions. If I can fulfil these conditions more perfectly and retain a more uniform temperature in the pile of any curd by building it in a cubic form than I can do when spread out thin, am I not to adopt the practice that is going to serve my purpose best?

Mr. CASSWELL.—I want to confirm what Mr. Ballantyne has said in regard to one thing. That is, where a cheese-maker is doing right I think as a rule the inspectors have advised him to go on, but it is dangerous to alter the system. Cheese-makers know from practice what is best. I mention it as a fact that the good that has resulted from having inspectors in nine cases out of ten has been in making patrons fear that if they tampered with their milk it would be pointed out.

Mr. Casswell then moved, seconded by Mr. B. Hopkins, that this Association commends to the attention of all dairymen the advantage that would result to the dairy interests from the operation of a by-law on regulation at each factory condemning the practice of feeding whey at or near milk stands; also the objectionable, damaging and dangerous neglect in leaving the carcasses or skeletons of "deacons" lying around farm yards or lanes.

Mr. B. Hopkins.—I rise to second this resolution, but before doing so I would like to make a remark or two. I am pleased to see every cheese-maker in his place at this convention, and I would have been better pleased to see every president and manager present. (Applause). There is some information that if they were present and heard would do them good, and that they are not here shows there is something wrong. This resolution commences with the managing directors, and I think the valuable information thrown out here to managing directors, to presidents and to all officials will have a good effect if they can only hear it. I think, with all that has been said, if we are to improve, we must commence. We find farmers feeding their hogs right under the milk stand. The cans are placed upon the top of them, and the pigs sleeping below. Now, such things should not be, and the managing directors should go and tell patrons that they could not come to the factories until this practice is stopped. All those here who have management of factories should go home and report this to their people at once, for we must commence at home. I have much pleasure in seconding this resolution.

Prof. Roberts.—Even a person who does not know much about the technical points stands off at some distance and can see things that those who are closer by cannot see. I have been coming to your conventions for years and this question of floating curds has been turned over and over and over, and it seems this year you come up with far more complaints than ever. Let me give you an illustration. The Mississippi river overflows its banks and causes great damage, and we have been trying virtually to dip out the Mississippi down towards its mouth, and now our Government is about going to the head-quarters and storing the water. We will never dip it dry down at New Orleans. So it seems to me if at this convention some resolution is passed to gather the patrons together, you can virtually stop floating curds and leave that manure on the farm where it belongs. (Laughter). I say that floating curds should be the exception; that a man should not be troubled with it once in ten thousand times.

Mr. Ballantyne.—If the maker would take half the time he does fighting with the gassy curds to go around and see that the utensils in use are scalded every day before turning them up he would have better results. Be sure that they have boiling water. It is not enough to wash them. He must go round and see the patrons, and see that their cows drink pure water, and half the battle will be won. There is no way of getting to the patrons except by the maker or some one appointed by him. There are many bad factors prevailing in factories that might be cured, and it is easier to see them than to cure them. Harvey Farringdon, when I saw him twenty years ago, said, if you begin right you can improve on right, but if you begin wrong it is hard to get right. Every day's experience proves that. I have no sympathy with the makers who say they get bad milk. Why don't they get it good? The wonder is that we are able to make the goods we are making. As Prof. Roberts says, we must go to the fountain head. You have to carry the gospel to the heathen. You have not to wait for them to come to you.

The resolution was then carried.

CHEESE-MAKING IN NEW YORK.

Mr. Richardson, of Aurora, N. Y., being called upon to address the convention, said: It gives me great pleasure to meet with this audience, representing as you do one of the greatest agricultural industries of the province. The reception we have received here, and which has always been extended to me, makes it a great pleasure to be with you. Now, so far as I am concerned, I am sorry to say that I am not a public speaker, and I shall not be able to say very much to you on the subject of cheese-making, but it has been very ably discussed by the various speakers at this convention. One gentleman asked me to say something in regard to our system of inspection of milk. We have in New York state under the auspices of the dairy commissioner—who is appointed by the Governor of the State—a corps of assistants similar to your milk inspectors. They visit the factories when occasion calls upon them, or make voluntary visits, one of the objects of which is to take samples of milk. We have a local standard for milk, and all that goes below that standard after being analysed, is held as *prima facie* evidence of adulteration.

Prof. Robertson.—What is the standard?

Mr. Richardson.—Twelve per cent. of solids, three per cent. of which should be fat. We had last spring a provision made by our legislature for the purpose of sending out instructors, and this was placed in the hands of the dairy commissioner also, and three district instructors were appointed for the purpose of eliminating the defects in cheese. Now, my opinion is that they are going to be valuable; they have got, in the first place, to be educated themselves. In the western part of New York the factories are mostly owned in combination ranging from twenty-five in each combination down. These men have, of course, perfect control of the mode of making cheese. The superintendent is expected to visit these factories, and should visit them every week. The first thing to do is to examine the green cheese on the shelves. The inspector is supposed to know by examining them what the quality will be when they are cured. He can only acquire this knowledge by experience, but any shrewd man visiting different factories will find some one that is better than another. When he finds a good factory the question is, how does that man make the cheese? He, of course, as a practical cheese-maker, observes the system and tries to get it introduced into all the factories. Perhaps next year some other factory is better and then the cheese in the other factories has got to be graded up to that. Western New York takes the lead in the state so far as the price is concerned, and I do not know where as good prices are obtained except it is in the Ontario districts, and it is largely through this grading system. Could it not be made practical to have Prof. Robertson and the inspectors appointed under him visit factories at different times and grade them up the same as we do in New York state?

Mr. Casswell.—What course do you take if a patron is found watering, skimming, or adulterating his milk?

Mr. Richardson.—It is in the hands of the dairy commissioner, and he is the prosecuting officer. Now, many times if the manager of a factory could make a settlement that would be satisfactory to the patrons the prosecution has been allowed to drop, and in other cases they have been prosecuted, but nine times out of ten a settlement is effected in that way. I am speaking of cases in our particular combination. I think we have never had one carried through in our combination, but we have had a great many cases settled.

Mr. Casswell.—Is the prosecutor one of your own inspectors or a Government officer?

Mr. Richardson.—A Government officer.

Mr. Casswell.—Who is he paid by?

Mr. Richardson.—By the State.

Mr. Casswell.—So that your inspectors are untrammelled and free and are out of danger of being charged with prosecuting from spite or anything of that sort?

Mr. Richardson.—Yes, they are state officers. I think the time of a good instructor is too valuable to be spent in looking up cases of adulteration and attending court.

Mr. Casswell.—How much does New York State give to carry on dairy work?

Mr. Richardson.—The appropriation last year was $75,000 for the purpose of enforcing the dairy law, $5,000 for employing cheese instructors, and the Dairy Association had an appropriation of $2,500.

Mr. Leitch.—How large a district does each inspector preside over?

Mr. RICHARDSON.—That depends upon the combination The territory in the one I represent is eighteen miles square and there are twenty-five factories.

Mr. LEITCH.—I mean the Government inspectors?

Mr. RICHARDSON.—I don't know, but from three to four counties each.

Mr. LEITCH.—Is that found to be sufficient?

Mr. RICHARDSON.—Well, they have inspectors under them.

Mr. CASSWELL.—How do you market your cheese?

Mr. RICHARDSON.—Our cheese is sold at auction. Several combinations meet at Buffalo every Monday and the representatives of New York buyers come there to buy the cheese. They are sold upon their reputation. You may think this might lead to unsatisfactory results, and sometimes it has proved not so satisfactory as it might be, but we have got along very nicely. We erected a large building and the cheese are all brought to this one warehouse and stored there. The cheese were marked for one season and the buyers saw all the cheese. Finally, instead of examining them, we adopted the system of marking the boxes with large figures, one representing the factory, another the date and the other the number of the vat. The system of selling without showing the cheese has worked more satisfactorily, probably, to all concerned than any other way.

M. B. HOPKINS.—As regards your standard, is it necessary, before convicting a person, to make any comparison of the milk tested at the factory with that taken from the cows?

Mr. RICHARDSON.—No, sir, it is not. It is an arbitrary statute.

Mr. BALLANTYNE.—Has it ever been enforced?

Mr. RICHARDSON.—Yes, sir, it has.

Mr. BALLANTYNE.—There is a danger of its acting unfairly.

Mr. RICHARDSON.—It has been carried to the Court of Appeal.

Rev. Mr. CLARKE.—With what result?

Mr. RICHARDSON.—It has been sustained.

Mr. BALLANTYNE.—Milk might not contain the solids mentioned, yet be pure.

Prof. ROBERTS.—I am not sure but you have the most valuable law—a civilized law.

Mr. BALLANTYNE.—One of the factories we have is at Tavistock, and we have a system of testing the milk, and found two or three persons whose milk was deficient, and came to the conclusion that it was tampered with. We went and tested it and found we received the milk as they received it from the cows.

Prof. ROBERTS.—You will notice our standard is a little lower in order to provide for that.

Mr. CASSWELL.—What would you do with a man if his cows gave milk with four per cent. of fat and he watered down to three per cent., which would still be up to your standard?

Prof. ROBERTS.—Can he not be convicted for adulterating milk as well as for delivering milk that is adulterated below the standard?

Mr. RICHARDSON.—I am not clear on that, whether the old law has been repealed by the passage of the new one.

Prof. ROBERTS.—This standard was to prevent the farmers delivering milk from cows that gave nothing but water.

Mr. CASSWELL.—In eastern New York is the cheese all made from pure milk or is there skimmed milk cheese, or is it difference in quality that makes the difference in price compared with western New York.

Mr. RICHARDSON.—I am not fully conversant with the customs in the eastern part of the state, but I am of opinion that a great deal of the difference in price is attributable to difference in quality. It is customary with the farmers in New York to take off a certain proportion of cream, and I think that has a great deal to do with checking the consumption of cheese in our cities and injuring the export of it abroad. We are taking steps to have this stopped and hope to increase the comsumption of cheese. We are producing in the States, now, about 400,000,000 lb. annually, and we are exporting about 80,000,000. According to the census we produced 250,000,000, and exported about 100,000,000; so you can see the increase of home consumption. One notable feature is that the home trade is taking the best grades of cheese, and the worst are going abroad. A few years ago it used to be considered that the cheese off flavor was good enough for the home trade. I think with a proper supervision the result will be less of this poor cheese will be made, and we can increase the consumption sufficiently to use all our cheese at home. Now we have something like 70,000,000 population probably to-day, and we are using less than 5 lb. of cheese per head. We are exporting 80,000,000 lb., which is a little in excess of 1 lb. per capita; leaving the balance of 400,000,000 lb. at home. I believe we can sell this in New York at better prices than England can pay. We ought to use 10 lb. per capita. In a great many families they use 25 lb.

Mr. Isaac.—Are you troubled with gassy curd?

Mr. Richardson.—We have some of that of course, but I judge we are not so much troubled as you are. We have a system that acts well generally.

Mr. Isaac.—Would you kindly tell us what your system is?

Mr. Richardson.—Our system is very different from yours. We use no mill, and the principal difference in the management of a floating curd from any other would be to hold it a few moments longer in the whey and give it one, two or three hours longer in the curd sink.

Mr. Isaac.—How can you keep the temperature up while you are curing these curds?

Mr. Richardson.—We don't attempt to keep the temperature up to 98°. It gradually goes down. We stir the particles of curd up so that they will not mat together, but will maintain the same shape, only, of course, but for the shrinkage.

Mr. Ballantyne.—Can you distinguish any difference betwen these and other cheese?

Mr. Richardson.—Scarcely any difference.

Mr. Ballantyne.—That is exactly the result of my observation—that by thoroughly stirring and exposing to the atmosphere and salting it moderately it would require a first class expert to distinguish that cheese from cheese made with fine milk. But all our experience in piling it up to keep it warm and develop the acid has not been successful. I am not here to say it is not the best way, but it has not been our experience.

Experimental Work.

Moved by J. W. Scott, seconded by Jas. Carmichael, and resolved, That this association express its approval of the suggestion of Mr. Thos. Ballantyne, for the carrying on of experimental work in cheese-making in two factories in the province during the coming season. Resolved further, that we recommend to the Minister of Agriculture the desirability of instructing Professor Robertson to make such provision as he may deem necessary for the proper prosecution of experimental investigations.

THE FINANCES.

Mr Casswell.—The auditors' report has been placed in my hands by Mr. Pearce. It will be seen that we have added $1,600 to our liabilites—$1,200 in the shape of a note to meet inspectors' salaries, and $400 due to one of the inspectors. Against this we have assets of $836, and $63 still to come from the inspectors' work, which leaves a liability over all of $699. Last year we had a balance on hand of $1,100. We knew pretty well how it would be when we undertook the work of inspection and instruction, and we trusted to get out of it ourselves. If we can not do it, we can take part of our $1,500 appropriation, but it will cripple the work of this association. It is for the convention to say whether they wish the inspectors to continue or not; because as one of the officers of the association, I shall not be willing to go on, unless we know where we are to get the money from. The report is as follows:

GENTLEMEN,—Your auditors appointed to audit the books of the treasurer, beg leave to report as follows:

1. We have examined the entries, and compared the vouchers with the payments, and find the same correct, the balance in his hands being $837.24, for which he produced cheques, marked good by the Imperial Bank of Canada.

2. The receipts for the year from all sources were $4,645.72, made up as follows:

Balance on hand as per last audit	$1,107 64
Proceeds of sale of tickets at convention	157 00
Proceeds of Government grant	1,498 00
By amount received from secretary as paid by factories for inspectors	707 80
By proceeds note discounted at Imperial Bank 29th Dec., 1889	1,175 28
Total	$4,645 72

The disbursements for the year were the sum of $3,808.48, made up as follows:

Salaries of officers	$ 260 00
Inspectors' salaries	2,800 00
Prizes	150 00
Board meetings	137 20
Expenses of convention	195 47
Printing, advertising and sundry accounts	265 81
Total	$3,808 48

From the above it will be seen that the assets of the association are $837.24, and the liabilities are a promissory note due at the Imperial Bank of Canada, on the 2nd day of April next, for $1,200.00, in addition to which there is a balance of $400.00 due to one of the inspectors for 1888, making in all $1,600.00 due on account the current year.

Audited and found correct.

JOHN S. PEARCE,
JOHN ROBERTSON.

London, Jan. 18, 1889.

Mr. Casswell moved and Mr. John Prain seconded the adoption of the report, which was carried.

DELEGATES TO DOMINION DAIRYMEN'S ASSOCIATION.

Moved by Prof. Robertson, seconded by Mr. Scott,

Resolved, that Messrs. Cleland, Ballantyne, Casswell, Lane and Hopkins, be appointed to attend the meeting of dairymen at Ottawa, to consider the question of forming a Dominion Dairymen's Association.—Carried.

REPORT OF THE COMMITTEE ON UTENSILS.

Mr. J. E. Hopkins presented this report as follows:

1. R. H. Casswell displays a self-feeding diamond curd-mill, which has been introduced to factorymen the past season. Having seen it in operation in several factories and cheese cut by it, we recommend it to factorymen,

2. A curd-sink shown in a model form by J. Sinclair. The advantage claimed is that it is built upon a principle which will keep curd warm, which we also recommend.

Mr. McPherson has a good style of faucet; also an aerator for milk, which may be some good if used properly.

J. E. Hopkins.
H. O. Foster.
John R. Isaac.
John Robertson.

Moved by Mr. Hopkins, seconded by Mr. Leitch, and resolved, That this association petition the Ontario Government to give an increased grant for the purpose of carrying on the work of instructions in cheese making, and that the Board of Directors be instructed to take the necessary steps to secure the same.—Carried.

REPORT OF COMMITTEE ON RESOLUTIONS.

Mr. Leitch presented the following report:

Resolved, that we put on record an expression of our sorrow at the loss which the dairymen of America have sustained in the death of Prof. L. B. Arnold, whose genial presence added much interest to past conventions when we had the honor of his assistance.

Resolved, that we express to the press our thanks for the publicity given through their columns to the proceedings of this convention.

Resolved, that in view of the apparent ignorance on the part of some factory managers concerning the sanitary condition of factory surroundings, necessary for the manufacture of fine cheese, that we recommend Prof. Robertson to issue a short bulletin of information and instruction on the subject.

Whereas the people of the state of Wisconsin have elected the Hon. W. D. Hoard to the office of governor of the state, and thereby denied us the pleasure and profit of his attendance at this convention; whereas in years past he has done the dairymen of this province invaluable service.

Resolved, that we hereby tender to W. D. Hoard, our highly esteemed friend, our congratulations and hearty good-wishes for his personal prosperity and success in all his endeavors for the public good.

Mr. Lane moved the adoption of the report, which was seconded by Mr. B. Hopkins and carried.

THE AMERICAN VISITORS.

Prof. ROBERTSON moved that the thanks of this convention be tendered to our American friends, who have added so much to our pleasure and benefit.

Mr. BALLANTYNE in seconding this motion said, whatever may be our respective forms of government there has always been the greatest harmony between the dairymen of Canada and the United States. We were much indebted to them in the early stages of the dairy industry; indeed, I would say to you "much" does not convey the idea. We owe the introduction of the system to the late Harvey Farringdon. It is impossible to realise how much he did. He was the person to whom every one went for information; and he was one of those who felt that it is more blessed to give than to receive. Well, we had others in those days, and our American friends were always willing to reciprocate better than we are The combination system was the correct one, as it ensured uniformity, and by combining twenty-five factories might employ an inspector of their own, and by such means raise the standard.

The motion was carried by a standing vote.

Prof. ROBERTS thanked the convention for this kind expression of good-will towards those who had come into their midst to try to learn more of the work in which they were all so much interested. We know you as a people to be energetic; we know you as a people that when you see a good thing, recognise it and seize upon it, and knowing this we come to you not so much to instruct as to get information. We know that here in Ontario is the centre of the district where the best cheese so far as we yet know for the common market is made. So when we come to you and feel that you take us by the hand and welcome us as learners with you, and as people of the same blood, and the same aspirations, then of course we must from the very innermost heart thank you for so kind and so considerate a resolution as you have passed to-day.

Mr. RICHARDSON also thanked the convention and assured them the vote of thanks was appreciated. We come here more as scholars than teachers, and we believe this exchanging of ideas is the true way to learn. If we get an idea that is better than yours, we are willing to send it over and you are welcome to come over and get it.

Mr. POWER said he had come here to learn. In Michigan, I am sorry to say, the dairymen's associations meet more by way of social intercourse; so they are more of a deterrent to dairying than otherwise. This I am actually ashamed of, and I will confess that we are far behind you here in Canada as cheese-makers. I was here in 1884. I then learned that you were far ahead of us, and you are still farther ahead now. The desire has been to do the work and get through the season with paying as little money as they possibly could; and they insist on it to-day that home-made cheese are the cheese for consumption in Michigan. I have one Canadian maker, and I have just employed another. It is utterly impossible for me to make cheese to supply the demand, simply because I have turned out good quality I have made a kind of cheese that takes, that people eat a great deal of, and it has simply taught me that if the Michigan manufacturers will go on and improve we cannot make cheese enough for home consumption in Michigan if we had double the factories we have to-day.

Votes of thanks were tendered to the retiring President, and to the Y. M. C. A. for the use of their rooms in the building, after which the convention adjourned.

II.—DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.

OFFICERS FOR 1889.

President, - - - M. K. Everetts, Easton's Corners.
1st Vice-President, - - James Haggerty, West Huntingdon.
2nd Vice-President, - F. H. McCrea, Brockville.
Secretary, - - - - Harford Ashley, Belleville.
Treasurer, - - - P. R. Daly, Foxboro'.

Directors :

Division No. 1.—Edward Kidd, North Gower.
Division No. 2.—Wm. Eager, South Mountain.
Division No. 3.—James Bissell, Algonquin.
Division No. 4.—D. Vandewater, Chatterton.
Division No. 5.—Platt Hinman, Grafton.
Division No. 6.—Henry Wade, Toronto.

Auditors, - - { J. G. Foster, Moira.
{ Thomas Miller, Spencerville.

LIST OF MEMBERS

OF

THE DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO,

FOR THE YEAR 1889.

Name.	Post Office.
Anderson, Stephen	Glen Stewart.
Alexander, James	Brockville.
Arnold, J. B.	Easton's Corners.
Ashley, Harford	Belleville.
Bissell, Rufus	Easton's Corners.
Bissell, James	Algonquin.
Bissell, W. J.	Algonquin.
Bissell, Howard	Algonquin.
Beaman, Hermann	Merrickville.
Beckett, R. T.	Kemptville.
Ballantine, E.	Jasper.
Burgess, H. C	Carleton Place.
Balfe, Thos	Lombardy.
Bird, Morden	Stirling.
Burnie, Matthew	Spencerville.
Brintnell, E. P.	Belleville.
Brown, Geo	Irish Creek.
Bush, O.	Kemptville.
Bethune, F. A.	Smith's Falls.
Chapin, L. M.	Plum Hollow.
Carson, A.	Burritt's Rapids.
Campbell, A.	Ormond.
Cumming, Wm	Hallville.
Craig, R. A	North Gower.
Clark, Hugh	Montague.
Craig, John	North Gower.
Campbell, D.	Smith's Falls.
Cavanagh, Robt	Franktown.
Carlow, T. B.	Warkworth.
Campbell, Wm	Morewood.
Cluff, W. J.	Brockville.
Cuthbertson, Jno	Perth.
Clark, J. C.	Smith's Falls.
Crawford, John	Ottawa.
Daly, P. R.	Foxboro'.
Dunham, G. W.	Toledo.
Davidson, W. J.	Brockville.
Derrick, A.	Merrickville.
Derbyshire, D.	Brockville.
Dougherty, Wm	Bishop's Mills.
Everetts, M. K.	Easton's Corners.
Everetts, M. W.	Easton's Corners.
Eager, William	Morrisburg.
Eager, Geo	Kars.

LIST OF MEMBERS.—*Continued.*

NAME.	POST OFFICE.
Easton, Dr	Smith's Falls.
Farrell, Jas	Brockville.
Frost & Jones	Smith's Falls.
Furguson, A. H	Huntingdon, Que.
Foster, Jno. H	Smith's Falls.
Foster, J. G	Moira.
Foster, Jas	Moira.
Feeney, F	Toledo.
Foster, Thos. R	Smith's Falls.
Gile, R	Smith's Falls.
Gilroy, C. J	Glen Buell.
Gilroy, John	Smith's Falls.
Graham, J. C	Smith's Falls.
Hutton, Geo	Easton's Corners.
Horton, Thos	New Dublin.
Hodgson, H.	Belleville.
Hunt, Martin	Lyn.
Halladay, E. V	Elgin.
Hinman, P	Grafton.
Hutton, Jos	Merrickville.
Hunt, H. J	Lyn.
Hussey, Jackson	Dunbar.
Haggerty, Jas	W. Huntingdon.
Jelly, Wm	Jellyby.
Johns, A. C	Fairfield East.
Jackson, Geo	Stoco.
Johns, C. J.	Fairfield East.
Jones, J. W	Delta.
Keating, Jas	Lansdowne.
Kidd, E	North Gower.
Kerr, Jno	Merrickville.
Kidd, Wm	Burritt's Rapids.
Keijans, W. M	Bishop's Mills.
Leach, Geo	Smith's Falls.
Lozert, Jas	Dixon's Corners.
Millar, D. J	Millar's Corners.
Millar, Jas	Spencerville.
Millar, Thos	Spencerville.
Moore, J. W	Lakefield.
Morrison, W. J	Bishop's Mills.
Maitland, Jas., Jr	Kilmarnock.
Morgan, Ira	Metcalfe.
Marshall, N. J	Athens.
Milligan, Richard	Smith's Falls.
Moulton, Geo	South Mountain
McDonald, C. C.	Hawkesbury.
Macpherson, D. M	Lancaster.
McVeigh, Edwin	Ormond.
McFarlane, P	Huntingdon, Que.
McCrea, F. H	Brockville.
McCargar, J. K	Belleville.
McCargar, Byron	Belleville.
McTavish, Jno	Vancamp Mills.
McCarthy, Jno	Easton's Corners.
McUen, B. A	Smith's Falls.
O'Mara, M	Lombardy.
Pearce, J. S	London.
Pollugh, Wm	Chantry.
Patton, L	Oxford Mills.
Publow, G. G	Perth.

LIST OF MEMBERS.—*Continued.*

NAME.	POST OFFICE.	NAME.	POST OFFICE.
Pelton, David	Burritt's Rapids.	Thompson, J. E	Prescott.
Pritchard, C. W	Greenbush.	Thompson, W. H	Pittston.
Paul, Jno	Almonte.	Telford, W. W	Merrickville.
Patterson, Jas	Lombardy.		
		Vandewater, D	Chatterton.
Robinson, W. W	Athens.		
Roberts, J. P	Ithaca, N. Y.	Wickwire, T. B	Easton's Corners.
Robinson, Geo. W	Athens.	Wade, Henry	Toronto.
Render, J. S	Vancamp Mills.	Winter, W. R	Wicklow.
Riddle, Geo	Smith's Falls.	Whitton, Jas	Wellman's Corners.
Ryan, M	Smith's Falls.	Wing, F. H	Elgin.
Ruddick, J. A	Lancaster.	Whorry, Robt	Iroquois.
Rutherford, J. W	Smith's Falls.	Wilson, M. J	Smith's Falls.
Roy, S. J	W. Huntingdon.	Watts, Wm	Burritt's Rapids.
		Webster, E	Merrickville.
Spence, S. S	South Dummer.	Wood, D. F.	Smith's Falls.
Scott, Thos	Glen Stewart.	Willis, W. H	Smith's Falls.
Strong, P.	Brockville.		
Stowell, Ed	Addison.		
Soper, H. L	South Mountain.	York, H. D	Merrickville.
Smith, C. W	Mohawk.	Yates, E. A	Athens.
		Youill, Robt	Almonte.
Tapling, Geo	Addison.	Youill, Jos	Carleton Place.

TWELFTH ANNUAL CONVENTION

OF THE

EASTERN DAIRYMEN'S ASSOCIATION.

The twelfth annual convention of the Dairymen's Association of Eastern Ontario assembled in the Opera House, Smiths Falls, on Tuesday, January 8th, 1889, the President, Mr. J. K. McCargar in the chair.

PRESIDENT'S ADDRESS.

The PRESIDENT having called the convention to order, addressed the meeting as follows:

Gentlemen and Members of the Dairymen's Association of Eastern Ontario:

I have much pleasure in welcoming you to the twelfth annual convention of our association, assembled in the prosperous and thriving town of Smith's Falls, the centre of a district in which are to be found some of the most progressive and enlightened representatives of the agricultural and dairying interests of our province. My satisfaction at meeting you here is much increased by the fact that within a short distance of this town I was brought up, and spent a considerable portion of very early life, to which I look back with the most pleasant remembrances. It is not my intention to inflict upon you a long address, as I am sure you are waiting with eagerness to hear the talented gentlemen who have favored us by their presence, and from whom we expect to acquire much valuable information; but I may, perhaps, be permitted to say, that I trust our meetings will result in the diffusion among those attending them of new energy and determination to excel in the manufacture of the product for which we have already achieved such an enviable reputation, and in everything leading us to that much to be desired result. I hope that every person, whether dairyman, patron or manager of a factory, or otherwise interested in the industry, will not only listen attentively to the speakers and take part freely in the discussion but will, when the convention is over, and they have returned to their homes, put into practice the lessons I am sure they will learn here. This, with a spirit of unity, and an unselfish desire to advance the interests we represent, cannot fail in making the benefits of the present convention far reaching and enduring. I have now much pleasure in introducing to you Professor Robertson, of the Guelph Agricultural College.

ADDRESS BY PROFESSOR ROBERTSON.

Professor ROBERTSON, after a few remarks expressive of the pleasure he felt in appearing before such a representative gathering of dairymen from the Ottawa District, and some words of advice and explanation as to the object of such gatherings, and the mode of conducting them, said that a project was on foot looking towards the establishment of a Dominion Dairymen's Association. The Dairymen's Associations of Quebec, New Brunswick, Nova Scotia and Manitoba, had, he was told, agreed to send representatives to a conference to be held in Ottawa, for the purpose of forming such an association.

Though he deprecated the idea of the Provincial Associations performing their duties in such a lax manner as so render necessary any intervention on the part of a Dominion Association, he still thought there was an extended field of usefulness open to such a body, and that the members of the Provincial Associations, after having well discharged the duties devolving upon them in their own particular part of the country, might find in the Dominion Association a field in which to expend some of their surplus enthusiasm and energy, thereby advancing the interests of the dairying industry not only provincially. but nationally and in the broadest sense. He frankly invited the Eastern Dairymen's Association to appoint delegates to this proposed conference, which he hoped would result in the formation of an association, having for its object and duty the looking after the dairy interests of the Dominion of Canada in a manner which could not be attempted by any mere provincial association. Another matter which he thought was deserving of their attention, was the establishment of experimental dairy stations. He considered if the members thought wise to recommend that such stations be established in eastern and western Ontario, that there was no insuperable obstacle in the way. Such institutions, he believed would, prove highly beneficial to those engaged in cheese-making, as experiments could be conducted in them during the whole summer months, to discover the action of the various agents employed in the process. They would be places where the cheese-maker who usually made good cheese but occasionally got off the track, could be sent to for a few days and brought into contact with the best methods. Such a factory he thought, would prove a great boon to the cheese-making industry of this part of the province, and he saw in it the promise of much future good. He hoped this matter would be fully discussed and considered at the present convention, as it was a matter in which he should in his recommendations to the Government be entirely guided by their opinions and decision. If they expressed themselves in favor of the project and recommended it, he should advocate it before the Minister of Agriculture. It was only fair for him to state that the proposal had not originated with himself, but had emanated from Mr. Thomas Ballantyne, M P.P., a gentleman closely identified with the Western Dairymen's Association and the dairying interests of the province at large, who had for some time past been anxious to have such a factory in the west.

Another point to which he desired to direct their attention was the legislation already in existence, and that required in connection with the adulteration of milk. Personally he held the opinion that the method of disposing of fines inflicted on those sending adulterated milk to factories was based on a wrong principle. He held that it was wrong that these fines should in any manner or form be diverted from going into the treasury of the injured factory, excepting, perhaps, the costs of the prosecution, and in regard to that he thought the guilty party ought to be saddled with the expenses on both sides, and that the amount of the fine should be turned over to the treasurer of the defrauded factory for distribution among the patrons. He also desired to urge upon them the necessity of dairy schools in the province, for winter instruction. The Provincial Government had been giving to the Agricultural and Arts Association a grant of $10,000 per annum, mainly for the purpose of supporting and maintaining a provincial exhibition. He thought the whole tendency of present affairs was towards abandoning that exhibition, and if that were true he thought it behooved the dairymen of the province to be on the alert, and to provide such plans as would bring as much as possible of that $10,000 into channels opened up for the improvement of their business. If they had such channels ready for its application the funds would come their way, but unless they had it would be diverted into some other channel. He therefore urged upon them the advisability of being ready with some well matured scheme for the application of a portion of this money, not through the association, but through the agency of the Agricultural and Arts Association, to advance the dairying interests of the province, interests superior to any others in the country.

Mr. Jas. Haggerty said he believed that when the existing law was being passed by the Ontario Legislature, circulars had been sent to dairymen throughout the country, asking their opinions in regard to the matter of fines and all other details. He would like to know whether Professor Robertson had expressed his views to the Government at that time on the subject.

Professor ROBERTSON replied that he had not done so in response to the circular alluded to, but had advocated the views to which he had now given expression when giving evidence on the subject. That had been his continuous judgment in the matter.

The PRESIDENT said that he was present when the Professor gave his evidence, and had himself presented the same view of the matter. He had also been in Toronto subsequent to the passage of the legislation under discussion, and had seen some members of the Cabinet, who had explained to him that it was impossible to dispose of the fines in the manner proposed by Prof. Robertson, owing to the fact, that if one half went to the informer and the other to the factory, there would be a possibility of collusion, that the president of the factory and the inspector might "put up a job," so to speak, on some person.

Mr. MACPHERSON thought that this question of milk inspection was one deserving most careful attention, and had devoted to it much thought and consideration. He thought the question had not been rightly understood. There were two aspects of the injustice involved to be considered; first, the criminal injustice, and next the damages accruing from the Act. The law said that if an act is committed unlawfully it became a criminal matter, and the offender was subject to a fine, but it did not say what he should do in regard to the damages. He had strongly advised those with whom he had conversed, that it should be placed in the power of the magistrate, after hearing all the evidence, to determine not only the amount of the fine to be inflicted, but the proportion of damages to be paid, the latter of course, to go to the patrons who suffered damage, and the fines to be disposed of as proposed under the present law. The present law as it now was he held to be of little or no value, it being indefinite and not going to the bottom of things.

Mr. HAGGERTY said that although the Government, as he had already stated, had sought the opinions of those interested in this legislation, and endeavored to give them such a measure as they desired, the law as it at present existed was not well adapted to their requirements. At the time their opinions had been given in response to the circulars, their experience had not been as extended as it now was. The question however, was, whether the Government would now amend the law so as to make it meet their views.

Mr DERBYSHIRE said that we had a liberal Government, representing the people and the people's views, and ready to do exactly what the people required. He was convinced that all that was necessary was a clear definition of what was necessary to make the law satisfactory, and the Government would hasten to enact the required provisions.

The PRESIDENT said that it was very difficult to get any piece of machinery to work just right at the first trial, but he thought the slight defects in the present law might be remedied without much difficulty. He, like Mr. Derbyshire, believed that a proper presentation of their requirements to the Government would result in such changes as would render the law efficient and satisfactory.

Instructor WHITTON described the difficulty he experienced in getting managers of cheese factories, and cheese-makers, to take action when he had discovered their patrons in dishonest practices. This, he thought was attributed to their fear of opposition factories. When on his tour of inspection last summer he had met with several cases of adulterated milk, and although he had driven some miles to find the manager of the factory he could not induce him to proceed against the guilty parties. After spending about ten days in that way he had reported to the President, and in accordance with his orders, not being able to get a single man in all his tour who would undertake the prosecution, had to go on and prosecute himself. Now he thought that if the Eastern Dairymen's Association had to conduct the prosecutions, the fine ought to go direct into the hands of their treasurer. If the factorymen would not incur any risk in getting dishonest patrons fined, they had no right to any part of the fine, and he would suggest that the fine, or damages, or whatever it might be, ought in such cases to go direct to the Association.

The SECRETARY thought that in addition to being fined for the criminal offence, any person guilty of adulterating milk to such an extent as would cause loss or damage to the factory, was subject to a civil action for damages. He doubted the willingness of the Government to invest magistrates with power to impose a fine and also assess damages in the manner suggested by Mr. Macpherson.

Mr. MACPHERSON said there was something in human nature, which the moment an instructor or manufacturer began to show an undue interest in bringing on prosecutions, made the delinquent an object of sympathy with all his neighbors; and it appeared to them in a great measure as if the offender was being hounded. For that reason it was desirable that the whole proceedings, looking towards both fine and damage, should be carried on at the same time before the magistrate. He did not see that this course would involve any interference with the system now in vogue, as he thought magistrates had already similar powers in some other classes of cases. He was very much in favor of having the whole thing done at one and the same time; everything was brought out before the magistrate hearing the case, and he could there and then decide not only on the amount by way of fine, but also the amount of damages the offender ought to pay.

The SECRETARY thought that in the case of a prosecution for adulterating milk, the information was laid in reference to some particular day, and the magistrate could not go beyond that day; consequently it would not be in his power to assess damages.

Mr. P. HINMAN did not think the Government would confer upon magistrates any further powers than they now possessed. The tendency of the times was rather in the opposite direction; towards curtailing the powers of magistrates. There were very few cases in which magistrates had the power to assess damages as well as inflict fines; only in cases of trespass, he thought.

Professor ROBERTS (of Cornell University) said he recognised the difficulty as a serious one. It had been surmounted in the state of New York by the creation of a State Dairy Commission, the first duty of which was to prevent the sale of oleomargarine; though they had soon found that that was not half of what they had to do. During the active dairy season their State Dairy Commissioner had probably thirty or forty men under him, inspecting milk at any time and every place. If it was suspected in any city that some men were putting adulterated milk upon the market, all that had to be done was to notify the Commissioner, and, without notice of any kind, that Commissioner got upon the cars and suddenly lighted down in the city some fine morning, taking samples of the milk of every milkman. In the same way he would light down on the factories without any notice, and as the milk came in from the farms take samples of it. In any case where doubt existed, the sample was sealed up and sent off to headquarters, where it was subject to analysis. This plan obviated any neighbors' quarrels, and brought in its train no lawsuits. The Commissioner immediately notified the detected parties that he had proof they had been disposing of adulterated milk, whether in town, at the cheese factory, or the butter factory, and they were immediately brought to terms.

Mr. MACPHERSON asked if it was not a fact that the fines and damages were combined in the one affair.

Professor ROBERTS thought it was no damages, but all fine. The effect of the system had been, that within a year a great improvement in the quality of the milk was observable, both among the milk vendors of the towns and cities, and at the cheese factories. In the inland towns it was a rare occurrence to get a sample of adulterated milk, and even in the large cities where on one morning eight or ten men would be employed on the great milk markets, not a single case of adulterated milk had been found. Whereas two years before New York had been furnished with the meanest milk on the face of the earth, consumers were now supplied with an almost absolutely pure article. He suggested that a similar system, to be controlled from the experimental dairy stations of which Professor Robertson had spoken, would be a good way of solving this problem, as it would do away with the neighborhood quarrel, or the lawsuit, which the present system was apt to bring in its wake.

Mr. MACPHERSON desired to say a word in regard to Professor Roberts' suggestion: he thought they could not do better than inaugurate such a system as he had outlined, and he, for one, was prepared to show his approval of it by giving fifty or a hundred dollars towards the expense.

Mr. MCCREA was impressed by the idea that nothing else would meet the case so well as Professor Roberts' suggestion. He foresaw difficulties if the Dairy Association mixed itself up in these prosecutions.

The meeting adjourned at twelve o'clock until 2 p.m.

AFTERNOON SESSION.

After recess, the President having called the Convention to order, the question box was opened, and the following queries disposed of:—

Q. What sized packages should creameries use for packing butter?

A. (By Mr. DERBYSHIRE.)—If I was making butter I would pack it in such packages as a consumer requires. If he wanted it put up in ten pound packages I would put it up in that shape, or in whatever shape would bring the most money. The nicest package, and the one that takes best, is the ten pound package with a little bail on it, so that the consumer can walk right off with it. Of course, if it is to be shipped to Liverpool it has to be put up in fifty or sixty pound packages, nicely done up in that way. I would first find out the views of the parties I was dealing with, and pack it exactly as they desired.

Q. Why is Canadian farming not more profitable?

A. (By Mr. DALY.)—Simply on account of the want of thrift and industry, the neglect of seeking intelligence, and unwillingness to exercise the intelligence when gained.

Q. What is the best breed of cows for dairy purposes, and why is it the best?

A. (By Prof. ROBERTS.)—The one that gives you the most dollars and cents.

A MEMBER.—Which one is that?

Prof. ROBERTS.—Any breed you like best.

The MEMBER.—Which breed is it?

Prof. ROBERTS.—The breed is as varied as the soil of your farms, and the individuals who farm them. In one place the Jersey, in another the Ayrshire, in another the Holstein. In Great Britain they have got that thing down pretty fine. You never find a Devon cow up in Galloway. The Lord never makes any such mistakes as we are trying to make. Nature's laws work accurately, but here we are trying to breed Shorthorn, Jersey, Galloway and Aryshire all on adjoining farms for like purposes. And that is what is the matter with agriculture. That is why the Canadian farmer and the New York farmer do not make more money.

Q. What is the cause of so much clammy tasting cheese in the fall, and what is the remedy?

A. (Prof. ROBERTSON.)—There are two causes, the first of which is in the milk. The milk is not cured enough by aeration and by being kept warm. Let the milk be aired and put in your kitchen, if you have no other warm place. The second cause begins in the cheese factory. When the temperature is allowed to fall before the whey is drawn off, that causes, when the acid comes, a temperature of 90° instead of 98°. The same error is perpetuated in the curing room, causing damage when it is kept cold. It is often kept at 60° instead of 70° as it should be.

Q. What would be the best green food for cattle, cut say in July or August?

A. (Prof. ROBERTSON.)—I think oats and pease.

A MEMBER.—How would vetches do?

Prof. ROBERTSON.—They haven't succeeded with us as well as oats and pease.

A MEMBER.—How is Lucerne clover?

Prof. ROBERTSON.—Well, we have Lucerne, but it is not generally used. I found that half an acre of oats and pease, and an acre and an eighth of corn fed twenty cows two months; from the 1st of July to the end of August.

Q. What method would you prefer of impressing on patrons the necessity of straining and airing milk before sending to the factories?

A. (Prof. ROBERTSON.) —I would never let up from the time the factory opened until it closed. I would send circulars to patrons at least once every two weeks, reminding them of the necessity of aerating the milk and cooling it, and I would get bulletins from the Guelph Agricultural College for every patron. You can get them free by applying to me.

Q. How cold is it necessary to have milk for raising cream for butter?

A. The best way of raising cream is to put the milk in a pail at a temperature of about 90°, and then gradually cause it to be cooled to a temperature as low as 40°.

Q. Can milk be accurately tested if sour when received?

A. (Prof. ROBERTS.)—I think it can, with the exception, possibly, that some of the solids may have been changed, but it is not expected that fresh milk, as delivered at the factory or in town, has gone through any marked change, beyond a little acidity, and I think there would be no difficulty. A slight acidity in the milk would not be any serious difficulty in determining whether the milk was up to the standard or not.

Prof ROBERTSON.—Practically the change would not affect the result reached by the chemist. A little of the sugar would be converted into acid, which the chemist would find in the analysis. In transporting milk for analysis it should always be put in a box with ice, and that would keep it sweet.

Prof. ROBERTS.—The question, I suppose, is intended to apply to cases where milk is found sour at the door of the cheese factory or on the milk route. I think practically you would never find it sour enough to disturb the results of the chemist. Of course if it were really sour and stale it would be condemned at once, and there would be no need of analysis.

A MEMBER.—I think the question was drawn out in regard to the way in which people arrange the inspection of milk. If a man was appointed to inspect milk all over the country, and found a sample of suspected milk in the morning, and had to send a sample to the owner and one to the chemist, wherever he lived, the question arises whether that milk would get to the chemist in time.

Prof. ROBERTS.—Oh yes, pack it on ice and send it immediately. It might be sent three hundred miles to the chemist without any difficulty, and if you made such arrangements as were suggested, and sent it to the nearest experimental station to be tested it would not have that far to go. For instance, a milk inspector going into Ithaca, and finding a sample of milk that he mistrusted, if he desired it analysed would send it at once under seal to Cornell University.

A MEMBER.—That is in the city. But suppose he was twenty miles from a station?

Prof. ROBERTS.—Well, this year it has been sent a hundred miles and we found it all right.

Mr. HAGGERTY.—How many of these milk inspectors have you in the state of New York. I think in Ontario it would take a great many inspectors to carry on the testing according to your idea.

Prof. ROBERTS.—I believe your inspectors are also instructors. I think the two positions should be kept quite distinct; one is a schoolmaster and the other a detective. When the instructor arrives in any neighborhood for the purpose of giving instruction, everyone knows of his presence, and everyone is on his behavior, and delivering good milk: for has he not the power also of detecting? That power, you know, is always dreaded most when, like lightning, you don't know where it is going to strike, and these men who are delivering milk if they don't know when the detective may arrive are always kept under restraint, and kept delivering milk that is almost perfect.

Q. Would it pay a patron best to draw milk once or twice a day to factories, quality and quantity considered?

A. (Prof. ROBERTSON.)—Once a day.

Q. What is the best process, where the patrons want skim milk, to have it from creameries?

A. (Prof. ROBERTSON)—It depends on the circumstances. The best skim milk is got from the centrifugal machine; that is, the milk which is sweetest and contains the least butter fat. If the circumstances are such that the patrons cannot have all the milk collected to one centre, the next best process is the deep setting pails, whereby the milk is kept so cold that the skim milk does not become sour. The third way is to use shallow pans. The best practice for farmers with a few cows, and whose farms are a distance apart, is by the use of the deep pails set in ice cold water.

Prof. ROBERTS.—The milk in milking ordinarily, especially in the fall and spring, falls very much in temperature while it is being milked, and often runs down from 98 ° or 99 ° as it comes from the cow to 60 ° or 65 °, and I would advise that farmers at home and in private dairies, bring that milk back to 90 ° before setting it.

Prof. ROBERTSON.—They would lose one quarter of the butter by setting at 60 °; a person setting the same milk at 90 ° would ordinarily make one-quarter more than if it was set at 60 °. The best way to warm it is to add warm water, which will thin the milk. Then the fat globules come through very easily. The warm water may be as hot as 125 ° or 130 ° Fahr.

Prof. ROBERTS.—I want just to say that that one idea is worth more to the dairymen and farmers of Ontario, in one year than all our dairymen's conventions have ever cost.

A MEMBER.—What is the depth of the deep setting pan?

Prof. ROBERTSON.—Usually from ten to twenty inches deep, and from eight and a half to fourteen inches across.

A MEMBER.—Which can the most cream be raised by, the centrifugal process, or the deep setting pans?

Prof. ROBERTSON.—As a general rule the centrifugal machines will leave less than four per cent. of the total fat of the milk in the skim milk, and as a rule the deep setting pails will leave about sixteen per cent., and the shallow pans twenty per cent.

Q. Which makes the best butter, the cream from the centrifugal process or from the deep setting pails?

A. (Prof. ROBERTSON.)—The quality of the butter depends entirely upon the treatment of the cream after it is separated. Certainly it also depends on the handling. There is the most risk of contamination in the shallow pans and least in the machine.

Q. In regard to a farrow cow's milk, in mixing with other cow's milk, I have heard the statement made that we don't get as much benefit by mixing as by keeping them separate. I would also like to know if a farrow cow's milk will show any difference in testing for butter or cream?

A. (Prof. ROBERTSON.)—For practical purposes the best plan in handling a farrow cow's milk is to mix water with the milk. If you mix water with a farrow cow's milk, and mix that with other milk, you will get the same results as if it were from cows fresh come in. The fat globules will be both harder, and slightly smaller, and harder to churn unless this precautionary measure of mixing water with the milk is adopted.

Q. What are the advantages of Brintnell's machinery for cutting the curd?

A. (Prof. ROBERTSON.)—I have no doubt Mr. Brintnell is here, and can answer that better than I can. However, I am always willing to give my knowledge. In using machinery I have found that I could get the curd stirred just as well with less waste of casein; but the curd required to be cut finer to get the same fine texture. If you have a really experienced cheese-maker I see no advantage beyond the saving of labor, but if you have to depend on a man not trained in cheese-making you have a saving in the quantity of cheese it is possible to make from the milk, and also the saving of labor.

Q. Why is it in our cheese factories that some men can make cheese from less than ten pounds while others require more than ten pounds and a half?

A. (Prof. Robertson.)—I might answer that question by saying I don't know, but I will take the question as a whole. Among the first causes I would say locality. In the county of Hastings and in other counties I find that more cheese can be made from a given quantity of milk than in some other counties I have been in. Another cause, no doubt, is the maker, who can undoubtedly injure in other ways besides making a poor quality of cheese. I do not think it is wise to attempt to make a good average at the expense of quality, and that is a point at which I think makers are very often at fault. The third cause to which it may be attributed is leaving moisture in the curd.

Mr. Haggerty.—That is all very well, perhaps, but I find in our locality where we have within a radius of five miles four cheese factories, that one factory has made cheese from ten pounds and 40-100, and the factory right adjoining that made it from less than ten pounds; another one, next that again, ten pounds 40-100; and still another one near that from ten pounds 55-100. Now, the cheese all sold alike; good cheese apparently, with no difference in it. Now, how or why is that? That is what I want to know.

Mr. M. K. Everetts.– Perhaps a difference in the scales.

Prof. Robertson.—Where the localities and conditions are the same, and the cheese made is equal in quality and texture, I generally find that the difference is in the scale.

Q. Do you think cheese-makers use the rake too soon?

A. (Ins. Whitton.)—I do think a great many of them use the rake too soon; when the curd is thin it should not be done, unless he is an expert who handles it. In regard to this question of yield, I was about to remark that I have known three factories on parallel lines with each other, and only about six or eight miles apart, and in which I know that the cheese-makers worked on the same system and under the same conditions, and that the scales were all right, and yet what I call the north factory will beat the south factory every year by at least a quarter of a pound. There is a good deal of limestone land in that section, and the best grass you can get for a cow grows on limestone.

Mr. Thompson.—The question is, supposing the milk is of equally good quality, and handled the same. I worked one year in Springbrook, and another with Mr Haggerty, and I found that under the same management, weighing the milk just the same, I wasn't able to make the same average in Mr. Haggerty's factory that I did at Springbrook. I think the result in that case was attributable to the locality, but I think the difference is made in some cases by taking in milk that is adulterated.

Prof. Robertson.—I think you have overlooked one very important factor: breeding. The fact that a single male animal of value in any district was the sire, grandsire and great grandsire, possibly, of many of the dairy cows, might very easily make this difference, unnoticed by the people who are breeding the cows.

Mr. Macpherson.—There is one thing I would like to mention which makes a considerable loss, and that is porous curd. If there is one thing which more than another requires a large amount of milk to the pound of cheese, it is porous, pin-hole curd, it takes from five to ten per cent. more milk. The great question is how to remedy this porous curd, and aeration is the only thing that will do it.

Mr. Hinman.—The patrons of a certain factory told me that after the inspector had been there, and two parties had been fined, they had for several days four hundred pounds less milk at the factory, and yet made more cheese. I think the great difference all through the province has been caused because there is such a disposition to adulterate.

WHY DO WE FEED DAIRY COWS?

The PRESIDENT.—I have now much pleasure in introducing to you Professor Roberts, of Cornell University, who will endeavor to answer for you the question, "Why do we feed dairy cows?"

Prof. ROBERTS.—Why do we feed dairy cows? I want to caution you at the outset that I am going to start from this very simple proposition and try to go to the greater one; the details will come up at some other time when I am speaking, as I am going to, on "The soil, the plant and the animal." My present talk is simply an outline, given for the purpose of making you think, especially the young men. If you will kindly follow me with that object in view, rather than simply a desire to know just how much cotton seed, meal or grain you ought to feed, I shall be glad. Why do we feed dairy cows? I find, taking the practical view, that you have in your province 750,000 dairy cows, one-third of which I am told are kept for making butter, one-third for cheese, and the remainder for purposes of reproduction, raising thoroughbred cattle and so forth. I asked two or three intelligent men in this audience how many of these cows were dry at this season, and they said not less than seven-eighths of them, so you have, gentlemen, 650,000 dry cows. Now, what is a cow for anyway? To go dry? 650,000 bright Canadian boys spending their winters as dry-nurses for 650,000 cows! (Laughter.) That is economical! Gentlemen, if we had not, as some speaker before me has said "the best business under God's heaven," it would never stand this drain. Would any shop-keeper who put up his shutters and closed his shop, and put up over his door, "Closed for six months for repairs," stand it for two weeks? Yet here we are, going on from year to year doing that very thing, and actually managing to pay for some farms too. Now, gentlemen, why do you feed cows? What in the name of common sense, did the Lord make them for? To give milk; and you in Canada, like we in New York, get less than 3,000 pounds of milk per cow per year, 24 pounds of which, on the average, will make a pound of butter. Now, why don't you double that? I will tell you why you don't. Because it is hard work to make a cow give 8,000 pounds of milk a year, or its equivalent at the rate of 24 pounds to the pound of butter. When I speak of the equivalent, I mean that if the quantity is less, the quality should be such as to make it up. I don't care what the breed is, whether Jersey, Holstein or anything else, but you must have eight thousand pounds of milk or its equivalent. Now, I want to say to these young men, who are yet plastic, that the things that are hard to do are the things that pay, and don't forget it. Anybody can breed an old scrub of a mare to a horse, and get a colt worth $60; but can you so select your sire and dam as to get a horse worth $250? If you can, there is something in that, but mind you, it requires skill, training and brains. Now, if there is any young man here, who is just starting out in agriculture, let him attempt those things which are hardest to do, and if he succeeds in them the reward is far greater than it is if he does the little things that are not hard to do, and if he does not succeed he will have so developed himself that he will be a much better man than he would have been. That is one side of the question, but the other is a great deal more important. If I ask why are we keeping these cows, the answer will be, "to learn our business, so that we can make more money." But what do you want with more money? You have enough to eat? Yes. Why, unless a man knows how to handle money, it is a greater curse than poverty any day, so we don't want any more money—we don't in the United States—unless we learn how to use it better. Now, what is all this for? Can you tell me why you take good corn meal and good oats, and feed it to a cow, and make butter and cheese, and so increase the price of food nearly fifty per cent? The same corn and the same labor will keep more men in the world than the butter and cheese produced from feeding them does. Why then do you do it? Why do you thus transform a good pound of food, vegetables of various kinds, into three ounces of butter? Did you ever think that there must be something beyond this? Take the corn crop of the United States, and the cottonseed meal and the beans, and mix and bake them; they will make better bread than nine-tenths of the human family live on to-day, and it will feed all our sixty-six millions of inhabitants, every one of them, never one of them would go hungry to bed, and we have enough corn to feed all the horses necessary to raise the corn, cotton and beans. Now, there must be something in this question. Let me just put it so you can think of it when you go home. I want you to take the dairy side of this question home with you, and dig down until you get at the bottom of it; we can't do it here, the time is too short. Did you ever know of a single breed of animals that was valuable, that was ever produced without being fed upon better food than they had when down in the scrub state? Did you ever hear of, or in all history read of a nation that rose to any degree of prominence or civilization without improving their food? So if our first point is to raise a better dairy cow, she must of necessity have better food. (Hear, hear.) Some people say, "Oh, these improved cattle, I turned them out, and they are no better than my scrubs." Of course they are not. If you are wanting to winter cattle on the north side of a wire fence, for goodness sake keep the scrub, for she won't suffer nearly so much as the highly bred and sensitive Jersey. Keep the scrub. As civilization advances, as the countenance brightens up, as intelligence is spread abroad in the land, every nation on the face of the globe has found it necessary to improve the quality of its food. Now, what is behind that. I am going to show you why there is this great demand for butter and cheese. Well, let us see. A man working in the woods chopping down trees, breathing rapidly, with a draught like the draught of an open stove burning fuel rapidly, eats what? He eats fat pork, which gives a great deal of heating muscular energy. But let us take the other man. The man who sits by his table studying a few months refuses fat pork. What does he want? Butter, the best butter that has been treated exactly right, and he will pay you almost any price yon are a mind to ask him for it. Why is this so? Because it has been proved that no form of fat or heat producer, is so easily digested as good butter; so the student at his table may eat three ounces of butter and write on and on, the energy in that butter being so easily digested that it gives him brains. Why? Butter is nothing but a little sunbeam, no nitrogen, no potash, no phosphoric acid; just a little sunbeam that has slipped down to us from the gods on a ray of light—energy stored up. And what for is all this? To raise that boy and that girl, that is the object of it. Now, don't let us forget it, that all our cattle and all our horses are but a means to an end, and that every man misses the thing that he was sent here for unless he accomplishes that end, which is to leave better men and better women behind us. (Applause.) I charge you then, that while you are watching this ounce of butter, or that fraction of a hundred pounds of cheese, you see to it that that boy or that girl for whom you are responsible, shall have better opportunities, better food and clothing, and shall know more than you do. It is a shame, and the only shame you have in Ontario, that you don't fill your college at Guelph so full that there would be no place to hold them. You must provide for education and for the development of the race that is to follow, or all your little knowledge of how to feed a cow or manage a pan of milk, or to do this or that, will amount to nothing. Don't forget that. You don't lay enough stress upon education See the New England States! Just look at them! Nothing but rocks and hills and a few pine trees. And yet the whole United States are better off to-day by millions and millions of dollars, because on their bleak New England hills schoolhouses arose. Yes, New England crowded itself to the front, and agitated and worked, until it swept even slavery from the borders of the United States. No other power in the United States could have swept slavery out of it, but the power of that New England schoolmaster. (Applause.) Now, not having had the education I would have liked to have, having had to get it at a disadvantage and when I was well along in years, I determined to try and do those things which were difficult to do, because I thought they would bring me better rewards, and I was right. When I was working with a jack-plane for a dollar and a-half a day, I strove to do those things which were hard to do; I strove on and on, and though I did not always attain the object I strove for, or reach the point I was endeavoring to get to, I so developed my life and character that other men found there was a place I could fill, and so to-day I can earn—I am not boasting—ten times as much as the simple boy shoving the jack-plane, because I tried to do those things which were hard to do, that is all. Then there is another thing, and this will apply to old people as well as young, but especially to the young. Let me tell you, by way of explanation, that I have had to do with teaching virtually all my life, in some form or other. In that capacity I have had from little children learning the A B C, up to aged men trying to learn something more about a profession, under my eye and under my instruction, and I have tried to study out the problem of what it is that makes one man bigger than another. Why is it that two boys who were in the adjoining forms, equally strong physically, equally endowed with brains, their fathers owning each a farm, should in future years become, the one wise, able and honest, and a man of great influence in the land, and the other a mere hewer of wood and drawer of water, at a dollar or a dollar and a-half a day. Why is it? I ask. They started alike, with this exception, that one of these young men wanted something, and wanted it very badly; he wanted it so badly that he started for it immediately, and kept on and on to get it. When he got that he wanted something else that was better; there was always a mark higher for him to aim at. The other fellow wanted something too, but he didn't want it badly enough. Now, apply that, you older men. Do you want a butter cow, an 8,000 pound cow or the equivalent? And if you do, do you want it badly, because if you don't, it is no use talking at all. You must want it terribly badly. There was a boy once that wanted a bycicle; he wanted it so much that he almost thought he would die if he didn't get it. He wanted it so bad that he went and worked on his father's farm, at the hardest work, for three long months, and got a lot of money together. Then his father, who if he had liked could have given him the bycicle at first, said, I will piece that out with you. You wanted a bycicle badly enough to try to get it, and now you will get a good deal better one than you expected to get. I just tell you that little story to show you that if you want anything very badly, badly enough to try hard to get it, it will come nine times out of ten, or something even better than you expected.

The President then introduced Prof. J. B. HARRIS, of Antwerp, N. Y., who read the following paper:

HOW NOT TO DO IT—A NEW VERSION.

This is a fast age. We know pretty nearly all there is worth knowing. We have reached a low level in the mines of knowledge. We have sunk our shafts deep, and in so doing have discovered many curious things—things that would have made our forefathers stare. We have learned some funny things about steam, about electricity, about sound, about water and about milk.

We are met on this occasion, I suppose, to congratulate ourselves upon the immense progress we have made in the art of converting milk into cheese. We have come here for the purpose of repeating the things we said last year, and the year before. Since we last met we have spent many laborious hours in the study of our favorite art, and now here we are, each with his little bundle of newly vamped phrases, well rounded periods, excellent rhetoric, and just a tinge of suspicion in our minds that we have discovered something.

I have a faint recollection of having read or heard something said to the dairymen of this province and of the States about the care of the dairy, to the effect that it is not considered a good thing to feed cows upon swale grass, leeks, whey and sour milk; that it is not a good thing to compel them to quench their thirst with swamp water, at frog ponds or stagnant pools, but within a very recent period I have made a discovery for which I claim the copyright, and that is that these things impart a very excellent flavor to our cheese and serve materially to enhance the value of our product in the markets of the world. The buyers seem to like these flavors, claiming that like onions in soup they give the article a relish, well adapted to the universal taste, and manifest their preference at the rate of from two to five cents per pound.

To promulgate this idea and bring it home to the understanding of dairymen everywhere I have conceived the idea of writing it up scientifically, and securing its publication in all the patent medicine almanacs, this method having, as I take it, two important advantages, namely, it would reach in this way a class of men who would never come across it in a dairy publication, and it would cost nothing.

Realising the fact that in these days of rapid advance along the highway of progress one must keep moving or he will be left behind, since I last met with you I have not been idle, but in the seclusion of my laboratory have made some very important discoveries among which is one that I find very popular with the Yankees. Observing with what facility and profit they *water stocks* in their financial operations I asked myself the question "Why might not something of this kind be made to result to the substantial advantage of the poor dairymen?" and upon this hint I set myself at work and very soon discovered that like stocks cheese is susceptible of receiving a considerable additional moisture, an idea which you must admit is not only very brilliant and profound but also very profitable when reduced to practice.

Investigation thus far has proved that from a pound to a pound and a half of water may be used with every nine pounds of milk with a corresponding increase of profit to the producer, a thing which, I take it, when understood, will be "caught on to" with a very lively appreciation by thrifty people of this province.

Of course I am not quite satisfied with results as yet, and shall only be willing to suspend my labors when I have learned the secret of supplying the market with first-class cheese produced from milk and water, half and half, with a corresponding increase in the amount of our product and a *pro rata* margin in the pockets of all concerned.

Perhaps I am a little indiscreet in adopting so public and open means of bringing my discovery to your knowledge, and I will say here that you had better not repeat what you have learned in the hearing of any of your keen-scented, quick-witted buyers, for it is just possible that they might attempt to take some unfair advantage of the fact and in some way get the better of you when the time comes that you will want to put your new product upon the market.

I have discovered also in my investigations that salt is not a good thing to use in the manufacture of cheese. It is an expensive substance, somewhat powerful in its effects and needs to be handled with care. If you use *enough* of it, it will be found to keep your cheese upright and firm in texture and sound for a long time—things which the maker ought to avoid as far as possible, especially in the fall product, because with that the keeping qualities are of no account, and the sooner it becomes saggy, salvy, off flavor and the fabric breaks down and goes to decay the better. I would advise cheese-makers to be sparing of their salt, and never on any account change the amount to be used. Adopt a uniform rule, say two pounds and a half to one thousand pounds of milk, and stick to it though the heavens fall, for by so doing you will have achieved a great reputation for pertinacity, if for nothing else. Some foolish makers have thought that there ought to be a distinction made between cheese intended for immediate consumption and that which is to be kept for some time; that to be used at home and that to be sent abroad, in the matter of using salt; and that more ought to be used in the latter than the former, but these fellows were doubtless speculative visionaries and cranks on the subject of salt—fellows who have in a way lost their savor, and who are to be treated as salt is treated when it has reached that condition. Again, let the cheese-maker in all things trust to luck. Luck and chance are deities at all times to be trusted. They have taken many a man from the shades of poverty and obscurity and placed him upon the loftiest pinnacle of wealth and power. Luck and chance, together with an indefinable something which, for the want of a better name, we will call instinct, are the geniuses which ought always to preside in the making-room. With the assistance of these the work goes on swimmingly. The maker sings as he works, and if he choose may devote his thoughts to base-ball, the fleet-footed steed he has in the barn, or his best girl. The material in his vats will take care of itself. This is a valuable discovery.

By the aid of these helps, why vex ones self with such perplexing things as tests—the vexatious lactometer, the judgment-racking teacup, the hot iron, litmus paper, and thermometer. To be sure these things have proved excellent guide boards along the road to successful cheese-making, but why trouble ourselves to consult them when we have so excellent an adviser as instinct to lead us blindfolded, as it were, right along through the whole complicated process unerringly to *doubtful results*? Behold the fowls of the air, have they aught but instinct, and who by any manner of tests could build a nest like one of these.

The cheese-makers who worship at the shrines of luck, chance and instinct are even now all too few in this imperfect world of ours and their ranks, strange to relate, are being constantly depleted. May the time never come when the places which have known them shall know them no more.

We have been exercised somewhat of late with regard to our cheese factory system. We are afraid that for want of something lively in the way of competition it may fall into a condition of hopeless desuetude. Cannot something be done to infuse some life into the business of manufacturing cheese?

Would it not be well to erect a factory upon every farm, and when the number of cows in the dairy exceeds thirty-five, two. There would be at least one advantage in this. There has grown up of late a practice of hiring or purchasing patrons that perhaps my Canadian friends do not all understand. The proprietor of an American cheese factory, the winter or sometime prior to the opening of the season, interviews a number of the patrons of the factory across the way, and quitely slips into his pocket a small bonus of say twenty-five or thirty dollars for his patronage for the coming season, which sum we think is much less than it ought to be, and if the number of factories were increased to the extent we have named the amount would go up correspondingly. We presume that nothing of this kind has come into practice among the good people of this province for the reason that you have so few factories among you. You have at least, small and great, two dairies to every factory, and were it necessary I might cite several cases occurring here where your factories are full a half-dozen rods apart. Of course if you have not adopted the system, which I have characterized as American, your dairymen have not received the benefits growing out of it and consequently have not flourished and thriven like their American brethren; but we trust that from henceforth they will strive diligently to gain ground and catch up with their enterprising American cousins in this particular.

But enough of irony and diatribe. In accepting the invitation you have so generously extended me to be with you on this pleasant occasion, I recognised the fact that I might be called upon to take some small part in the interesting exercises which always characterise your meetings, and at once set to work to see if out of my somewhat extended and varied experience in the business I could cull out something *new* and of interest to present to you but found ere long, by an examination of the papers heretofore read by me in your presence, that you are already acquainted with my best thoughts and research in the great field we are seeking to cultivate, and that I had nothing of special importance to offer, and resolved to touch off two or three of the abuses which prevail in the business sarcastically, in the hope that by the employment of this means of attack I might induce some of the delinquents to abandon the error of their ways and by so doing contribute to the aggregate of our general excellence. I have often wished that some mind gifted, like that of Swift or Ingersoll, with the power of ridicule would take up the pen for the purpose of driving from the world of dairymen all such as deserve its point, or of lashing into obedience the stiff-necked and perverse violators of the well known and well established rules which govern cheese-making. Such an one would prove a great benefactor to the race, as great perhaps as a Watt, Stephenson, or Morse, and might go down to the close of life with the blessings of the civilised world to honor his useful career.

EVENING SESSION.

The meeting then adjourned until 7.30 p.m, at which hour the members re-assembled, when the following address was delivered by Prof. ROBERTSON:

CO-OPERATIVE DAIRYING AS IT WAS, IS, AND SHOULD BE.

In rising to address you to-night upon this subject, I do not purpose to advance very much that is new. The future of our dairying trade must essentially be an outgrowth of our present conditions—the child of our own judgment and skill. Touching first upon the past, I shall not go back further than the time when the cheese manufacturing industry was first introduced into this province, some twenty-one years ago. You will observe from the fact I have just stated that our co operative system of dairying has attained its majority, but, like many of ourselves, it has grown a long time without gathering very much sense, if we are to judge of that from its present state. Its progress, both in the improvement of methods and the occupation of area in our province, was very slow until it was taken in hand by the Dairymen's Associations of Ontario; but as soon as that association was called into existence and began to guide and foster the industry it received a new impulse. The association not only deepened and extended the interest manifested by our farmers, but was the means of leading them to increase their profits by engaging in the dairy business. The dairy associations of Ontario has been of much more service to the province than even we often give them credit for. The idea has prevailed that in the dairymens' associations of Ontario, we have organisations the sole duty of which has been to augment the output of our cheese and to increase the number of our cows. In thinking so, however, a great injustice is done both to the parent association and those which have sprung from it. The first main uses of the dairymen's associations to the farmers of this province, have been to demonstrate to them the possibility and great value of co-operation; the necessity of being more self-reliant; the advantages to be gained by applying intelligence in their own business; and the desirability of that earnest and continuous effort for improvement without which no class of our population can take their true rank among their fellows. To the dairymen's associations more than to any other agency we are indebted for our present condition as regards co-operation among farmers. Our farmers' institutes, (which I take this opportunity of commending to your attention and appreciation, and which are accomplishing such admirable work among the agricultural communities) are a direct outgrowth of dairymen's associations, and many of their best workers are indebted to these associations for early training. In reaching the ends I have spoken of, I claim for the associations that they have not merely made it possible for the farmer to make more money, but have made it necessary that he should be a broader minded and better man before he could be a successful dairyman. In this way they have been a civilising and enlivening agency in our midst.

The function of the farmer in society is to produce food and the raw material for clothing for the rest of the race; and the dairyman is merely a farmer calling to his aid more resources than if he had no dairy. When he produces food from the soil of his fields he is aided by the energy and elements of the sun, air and water. From the action of these in accord with nature's law, he is enabled to raise plants as the reward of his labor; but he is still far from having drawn from his fields by the aid of these agencies all the good it is possible to get by making animals serve to elaborate food for men's use. To place cattle upon a farm is not to place a tax upon the labor of the farm, but to call into requisition a factor which will increase the available food supply from the whole property; that is the place of cows and all cattle. The plant is a contrivance in nature whereby the sun stores his energy in convenient shape for man's use, and dairy products, as my friend Professor Roberts so eloquently and poetically put it, are merely concrete or materialised sunbeams—the heat and energy of the sun being stored up there so that men by consuming them can get in the most easily realisable way that warmth and energy to help them to preform their part in the great plan of nature. Now, the plant being this sort of a contrivance in nature, if the animals consume many plants and give man back nothing they become a tax and burden on his energies, and not his servants and friends.

The question was asked this afternoon, "What is the use of feeding cows if they eat more than they give back?" I see but one use; and that is that we may make them consume what we cannot eat, and thus get out of it, food and service for ourselves. Taking a crop of wheat, for instance, no man gets in the form of flour more than half of the available energy it contains. Therefore if a man grows wheat, and sells nothing for food but flour, he tills his soil and spends upon it his labor without realising more than half the profit it would bring if he called to his aid animals which consume the straw and bran, and thus convert into human food the parts of the crop which could not otherwise have been utilised. So, to sum up very simply, the cow fills her place as an economical factor when she lives upon those parts of the crops not adapted for human consumption; and living upon them produces food which makes it possible for a larger number of men to be fed from a given number of acres. All the best of our dairymen understand this, and due understanding and appreciation of the fact has resulted in an increase of the available food supply in this province; an increase which has rendered it possible for us to support economically a larger population than we could otherwise feed, and which at the same time has afforded ample remuneration to the men whose labor has been expended in producing this extra food supply. Now, let me tell you what the farmers are likely to amount to unless they commence using this aid. The farmer who sells direct everything he raises on his land is selling off plant food—the substance of fertility—in large quantities, and if he returns nothing to the soil is in the same course of action as a storekeeper with a limited stock, who clears his shelves and counts all his returns as profits. Such a storekeeper would soon be under the necessity of putting up his shutters, and in the same way a man who uses his farm in the way I have mentioned will soon have a poor farm, and being a poor farmer will soon be a poor man. Unless a man will conserve the elements of fertility, his land will not be able to stand the drain incident to producing food.

Last year, when I was in the west, I learned of a contrivance for preparing oatmeal—a sort of a small mill. A small, rather gaunt looking boy was looking at it. He was asked if he would not recommend the purchase of one of them for the house. He felt of his vest, which was rather loose, and said, "I can't recommend the use of that for our family, it is not big enough; I could eat more than it would turn out myself." "But," the question was asked, "how long, could you keep it up? "Well, mister," said the boy, "I guess I could keep it up until I starved to death." The farmers of this province could have kept on producing food as they did until dairying came to the rescue, in not keeping any stock to put manure back on their fields until they starved the population clear out of the country. Dairying has made it possible to maintain a larger population, and in doing that has increased the marketable value of real estate in our whole Dominion, because population is the only element which gives property any value. A large property of a million of acres in some remote part of the world where population is sparse is worth very little, but half an acre in the midst of a densly populated city is a fortune. Therefore, the kind of farming which makes it possible to maintain a larger population with profitable employment to them, increases the marketable value of property in the whole province. There is not a store in the town we stand in, that would not sell for thirty per cent. more cash to night than it would if the $9,000,000 had not come into the country in 1888, for our cheese. There is no doubt that a store would rent for at least one third more, because of this income from the dairy business, and increased rental brings increased values. Every man, woman and child in the Dominion is financially in a better position by reason of the adoption twenty-one years ago of the co-operative plan of dairying.

I want to say further, that the co-operative system of dairying carried on in cheese factories is restoring fertility to land that had been exhausted, and is repairing the financial health of the farming population in those sections of the country where it has been carried on with good judgment. I heard this statement made the other night by a man of large experience in one of the counties of Ontario. He was a tax collector, and although that functionary is not a gentleman whom we are always delighted to honor, he has excellent opportunities of forming just opinions in regard to a matter of this kind. He said his experience had always been that when he came into the vicinity of a cheese factory he found the taxpayers ready with their money, whereas when he was in other sections where there was no cheese factory, he was constantly being asked to wait till threshing time, or Christmas time or till the grain was sold, or some other time. That is a proof that dairying on the co-operative plan has had the effect of so increasing the earning power of the farmer, that he is in possession of more readily available cash. Then it has saved in other parts large sections of the country from becoming non-productive. We sometimes think that, after all, the whole value of dairying to the province is that it has brought back farms from a state of barrenness to a state of high productiveness. I think the farms need never have been exhausted, and we find that in those sections where dairying is most extensively carried on they have the best and most productive farms. I do not think there is any need at all for a man to exhaust his farm and to work it so bare that it will grow nothing but thistles and wild oats in order to prove that dairying will restore its fertility. I would not think as much of a man who did that as of one who had the good sense to engage in dairying work, and whose farm was never exhausted. I have no sympathy to waste on the farmer who has so little foresight, intelligence and thrift as to take from his farm its fertility. Ignorance and neglect will entail the penalty which he must pay. I claim that dairying has preserved the fertilty of the fields, and increased it beyond their virgin productiveness. Then it has put a capitalised market value into the farms of the province. If a farm, by reason of having more cows and a cheese factory close by, will bring in a larger annual income, it is of correspondingly greater value. Then it has added to the income of the farmer without lessening the production of any saleable crop. If we had merely found a new way of getting money, and in applying and putting it into operation had abandoned the means of getting money from other sources, it would have been no gain or improvement. I once heard of a lawyer who was so fond of money that when he had any business of his own to transact he would always put his hand in one pocket and take some money out of it and put it in the other pocket, to persuade himself into believing that he had received a fee for his services. If the farmers of this country in receiving $9,000,000 a year for their export dairy products, had in that way merely taken the money from one pocket and put it into another, and had lessened their receipts from grain growing or any other source, they would not have made themselves any wealthier, but it is capable of proof that no farmer who has increased his income from the sales of milk to a cheese factory has lessened his production of grain by a single bushel. On the other hand he has so much increased the productiveness of his farm that it will grow twenty-five per cent. more grain on the average than it would otherwise. Where a cheese factory is supported, we find that it is an additional source of income which does not operate detrimentally to or in any way lessen the realisation of income from other sources from which we have in the past been accustomed to derive it. So much have I put together by way of speaking of the past of our dairying. We all like to be successful and respected at home, but at the same time we also like to be well esteemed abroad, and there is no department of our agricultural, industrial or manufacturing enterprises that has won for us abroad such a splendid reputation as has our immense export of dairy produce. No man in England will ever try to disparage this province as one in which the finest dairy products cannot be manufactured and exported; although many of them think we cannot keep on growing wheat or beef and pork as has been done in the past. We have given indisputable proof that we can and will continue the production of cheese of the finest quality; which proves that we have a climate and country suitable for calling into advantageous use the best energies of man; suitable for the maintenance of the best kinds of dairy stock, and the economical production of food of this kind of the very best quality. In this way our dairy business has advertised us abroad as a solid, substantial, progressive and prosperous people, and beyond this our cheese business has done more than anything else to correct erroneous ideas prevalent among the English in regard to our climate. In a brief three weeks time, two years ago, at the Colonial and Indian Exhibition, it was not difficult to give this province and its resources advertising to the extent of six hundred miles of single columns of newspapers, and that without any expense for advertising bills, but simply by writing about cheese and butter. In that way we have got a most desirable reputation and the most extended information about our province spread abroad through our dairy business.

Having said so much in regard to the record of the past, there are some things to be learned from it which we cannot afford to ignore, and in speaking of the *present* I wish to speak of it with its weaknesses and defects, and to review them in the light of our past history. I would like to examine the present status of dairying, especially as regards co-operative cheese factory work, in relation to the profits that are and may be derived from it. I do not propose to detain you by speaking at great length of its magnitude. We have in the province over 770 co-operative cheese factories, supported by over 41,000 patrons, receiving the milk of over 260,000 cows. Now, if these 41,000 patrons were all men of enthusiasm, intelligence and good judgment, they could raise our cheese industry to a much higher plane, from which they could realise twice as much profit inside of a year and keep up the improvement at the same ratio for the next five years to come. I find in the first place that there are many men halting between two opinions, as to whether it pays to support a factory or not. By sending out circulars and getting returns as far as possible I find that over five thousand of the forty-one thousand supplying milk, do so for less than three months a year to the factories of this province. They are the men who are never quite sure whether they will send milk more than one week or not; who have not quite made up their minds whether it is worth while to keep on living next week or not. While attending a dairy convention held recently in the state of New York I heard a man in a position of authority state that it would pay the farmers of that state to shoot and bury one-half of the dairy cows there.

Prof. ROBERTS.—It is the truth too, and not only there, but here, also. If you did you would be better off next fall.

Prof. ROBERTSON (continuing).—I also heard another gentleman of equal prominence there, and a man occupying an official position, say that not more than one-third of the dairy cows in the state were actually yielding a profit to their owners, and I say now that if I thought even that were true of Canada I would throw up my hat and hurrah for Canada, but I do not believe even one-third of our dairy cows are yielding their owners a profit. The first means of improvement in that respect, I would suggest, would be to eradicate the thoughtless indifference of these men who have never made up their minds as to what a cow is for, and improve them into keeping better cows in a better way, or improve them out of that kind of business altogether. The average yield per cow has often been cited at three thousand pounds of milk per year. I would leave myself upon record as saying that the average yield of the cows of Ontario is over three thousand pounds per annum each, but is under three thousand pounds per annum when measured by the cheese factory season. I got a large number of returns, of which I have an abstract in my pocket, and which were made by cheese-makers who took some pains to verify the correctness of them, from which I find that the largest yields per head of the best herds supplying milk to eighty factories, through the whole cheese factory season of six months and one day, was 3,500 pounds, and the average of the poorest herds going to the same factories during the same period was 2,235 pounds. Now, what is the matter with our cows? If, as I said in my opening remarks, the cow is a contrivance of nature to aid the farmer in producing more food from his fields, it is a very clumsy and inefficacious contrivance that consumes the keep of six months and gives back only that amount of milk, a contrivance which instead of being a source of profit is only a burden and expense to the man who has to keep it in running order. Now, I have asked what is the matter with our cows. I will not detain you long upon that, but I would like to say to you that the cows are made the wrong way. The man makes the cow. The dairy cow has been the product of man's skill, and reflects that. She is an artifical product, and the main operative agency is the brain of man. The man who refuses to use his brain simply lets nature and the cow do the worst they can for him; that is the best they can for themselves, but the worst for him, Now, we can make a cow by moulding, according to our desire the powers inherited by the animal and the powers acquired by it in its feeding and management. To succeed in moulding the cow to that form we desire we must go back and get a proper male. The man who wants to make a china tea cup does not go to a brick yard to get his clay, nor does the man who intends building a steam engine go to the bush for his piston-rod. We must have the proper material, and the only material that is at our hand which can be worked into the best possible form for the use of man in the dairy cow is the material inherited from cows and bulls that have had milking power and milking records. If we do not begin there we have to refine our material, which is unnecessary labor when we can have our raw material of the right quality to begin with. A man should no more think of using a bull in his herd that has been kept fat from its calfhood up, than he would think of using brick clay to make a china teacup. Such an animal is not the bull for a dairyman. Let it have a record of eight, ten or even fifteen thousand pounds of milk behind it in dams, back for two and more generations. Again, a man who wants to buy a bull to head a dairy herd, will go to a stable and find a bull calf which suits his notions as to its points. He will then go into the cow stable of the stock breeder and ask to see the dam of that bull, and finds perhaps a lean cow, a large cow, a large milking cow with an angular frame, not rounded and padded with flesh below her skin. "But," he says, "have you got a calf from this other big fat cow?" "Yes." "What do you want for it?" "Fifty dollars more than for the other one." He goes back and buys the calf from the fat cow, and still he expects that he is going to succeed in improving his dairy herd. I do not care whether the cow be a Jersey, Holstein, Ayrshire or Shorthorn, the man who buys a bull from a fat cow makes a great mistake, and if he keeps that bull fat afterwards he destroys whatever little possibility there ever was of getting improving blood into his herd. Therefore breed bulls from lean cows, that are kept well but never allowed to accumulate fat, for the accumulation of fat is opposed to the production of milk and butter. You may find a cow fat when she is dry, but you cannot often find a fat cow giving lots of milk at the same time. Then you can mould this adaptable raw material of animal quality to suit your own purposes only by the continuous exercise of judgment and intelligence. Now, the man who does not know the kind of cow he wants will never make a heifer shapen that way; but the man who has the ideal of the cow he wants in his mind will make his heifer grow like that for him. You can make a heifer grow almost any shape you like within limits. I can make a heifer calf that looks deep in the fore quarters look like a model dairy cow when she is three years old every time, by the way I keep her. If you feed your heifers bulky food, digestible food, when they are four, five or six months old, they will grow deep behind, for their paunch will be broad, deep and long. You see, therefore, that by the exercise of judgment you can mould or form the same heifer to give less or more milk. Then you can preserve the internal physical mechanism, the internal powers of heart, lungs, stomach and milk-producing organs; so that this cow when she comes to maturity will have her powers intact. I want to drop a point here. We spoil our boys before they are twenty by letting them get flabby muscles through careless habits of living, smoking and indulging in things of that sort which weaken the vitality of heart. We are ruining the vital substance of our population by not having our boys better kept until they are past twenty. And in the same way with regard to our cows and bulls; if they are well handled until they are matured they will stand a great deal of abuse after that with little injury. Then the present of our dairying strikes me as being weak in this respect, that even if we had good cows on the average we have not learned to feed them economically. We have 2,235 pound cows, but these same cows are five acre cows, needing the fodder from five acres to produce that small quantity of milk, viz.: three acres of pasture and two of fodder. There is no adequate return for the labor spent upon such animals. Instead of five acre cows we want to have a good many half acre cows, and instead of 2,235 pounds as a record we want at least a record of 7,000 pounds. You see the difference; a man may feed a cow on half an acre which will give him 7,000 pounds of milk a year, and he is making a good deal more food per acre than the man who makes only 2,235 pounds per cow and has to feed her the fodder of five acres. As a man produces food he creates wealth, and will have his own share in the handling thereof. Now, I do not want to denounce an evil without suggesting a remedy for it. Reduced acreage is the thing, and I would recommend farmers to sow some rye. Two acres of winter rye is enough for a two hundred acre farm, and that will furnish food early in the season before the other crops are fit to use. Then bran should always be fed; bran or pease meal, or something like that—when early pasturage is unnutritious, immature and not calculated to give the best results. Oats and pease cut in the green state should then be fed; and after they are through, there should be a crop of ensilage corn ready, of some variety that will give a large growth of leaf and stalk, full to overflowing with nourishing properties. If he would have that, the farmer must give up the old-fashiond practice of sowing three bushles of corn to the acre. I have met this fall men who sowed less than half a bushel to the acre. One of them is now in this room, and will perhaps talk to you to-morrow. Now, as a matter of fact, the value of the seed sown being left out altogether, and in that you have more than the value of the rent of the farm, you then, from three bushels of seed per acre have about one-third as much feeding as from an equal area of corn nearly matured You have nearly one dollar of value in the crop from thin seeding against thirty-five cents. You could have sold a crop of corn last fall easily at $35 per acre. I wish to say further that in feeding corn to cows, a man should supplement the fodder corn with bran or the equivalent of bran. I will give you the experience of a man whom I heard relate it within ten days; a successful dairyman whose hairs are grey and whose bank account is heavy. He said that last year he bought bran and fed fodder corn by the most approved methods, and he found that the supply of milk yielded by his cows was largely augmented thereby. The bran cost him $14 per ton. After one week's experimental work he went to the cheese factory, and found that at the price cheese was then selling for, he had made just $2.41 more in the value of the milk than the extra cost of the bran had been to him. He had got enough extra milk to pay for his bran and leave him a profit of $2.41 in one week, besides having his cows in better condition, able to give more milk for a longer period that season, and the manure.

Then I must pass on to speak of the present again, and the attitude of the farmers who support cheese factories in regard to watering their cows. The swamp is the convenient watering place for cows when it is on a farm, and, if there is no convenient watering place on the front of the farm, the cows are walked once or twice a day the whole length of a hundred-acre lot to quench their thirst. Now, it will pay a farmer to hire a boy to pump water the live-long day for cows rather than have them walking back the length of a hundred acres. Mind you, the boy need not pump water all day, but, if he did, it would pay that he should do so. Every dairyman should have conveniences in his yard and fields for watering his cows, and the result will be that they will give more milk of better quality, especially if they get as much as they want during the hot weather. Cows need an abundance of water, and pure water at that. The quantity of milk which a cow will give on good food can be always increased by a liberal supply of water; and, more than that, the quality of the milk will be improved. The contrary is often thought to be the case, but the quality of milk from cows having all the good food they require is always improved by free access to an abundance of pure water. I would not like to give you any misleading advice, but I would recommend you to water the milk as much as you can through the cow—but only in that way, of course. I want to say next that we do not recognise the value of salt sufficiently as a milk-producing condiment. There is no occasion for me to detain you now by explaining the action of salt or its effect in increasing the supply of milk. I have treated rather freely already on that subject in another way, and if any of you will send me your name and address on a post card to Guelph I will forward you some information on the subject. A liberal supply of salt, given to cows as often as they like to take it, will lessen considerably the quantity of milk required to produce a given quantity of cheese. If the farmers supplying a cheese factory with milk will salt their cows every day for a week, and then give them no salt for the next two weeks, I will warrant you that the cheese-maker will require just about half a pound more milk to the pound of fine cheese the third week than he did the first week of that test. The theory is this, that when a cow becomes feverish she does not digest her food properly, and passes part of the albumen in her blood right through into the milk without changing it. When a cow is in good health she changes almost all that into casein, which will coagulate, and if it is not properly changed you find a large quantity of albumen, which will not coagulate under the action of rennet. This albumen shows all right to the lactometer, and almost so on analysis, but still it is all wrong when you try to act upon it by rennet. Therefore cows should be given plenty of water and salt, and they should be handled in the most tender way, as anything which interferes with their quietude will lessen the action of the cow's system in changing albumen into casein. Then the present way of keeping cows in pasture is not creditable to our good judgment. A cow that is exposed to the suns of summer without any shade will give less milk, and milk of a quality such that a great deal more of it will be required to make a pound of cheese. You can find nearly as much in these conditions as in the breed of the animals in enabling you to handle and realise upon the milk. I am not going to speak long upon that, but the manner in which a cow is handled will influence the quality of the milk, both for butter-making and cheese-making. It will always pay to pet a cow. I think that good-heartedness towards animals will always do a man good; it certainly will when it finds its object in a cow. You cannot make a cow feel better than by making her a pet, and when you do so you are increasing your realisable profits from her. Just a word upon the elaboration of milk, using this chart (large drawing of a cow), for a short time. Milk is secreted by and in two longitudinal glands, commonly called the udder. These two are separated by a fibrous partition, which is attached to connective tissue under the skin. That tissue also spreads through the udder, apparently for its support in position. The udder is spoken of as having four quarters. That is popularly correct, although the division between the two quarters on each side is not definite or distinct. The gland, stripped of its covering, is a reddish-grey substance. In dry cows the deposit of fat in the connective tissue give it a yellowish appearance. The internal canal of the teat opens into a milk cistern. The total quantity of milk held in the four cisterns or reservoirs at the top of the teats will seldom exceed one quart. Numerous ducts rise from these and branch into all parts of the udder. The ducts and their branches become smaller as they spread, until each one ends in a vesicle, or "ultimate follicle," about 1-30 of an inch in diameter. Into these cavities the serum of the milk—its water, casein, sugar, albumen, etc.—seems to pass from the arterial blood through capillary tissue. A change in the cell albumen of the blood is believed to take place during that transition. The inside of each vesicle is studded with innumerable cells. Through these the fat is produced supposedly by budding. There are ordinarily about 1,000,000,000 of these globules in a cubic inch of milk. They have no organic pellicles or so-called skins. The activity of secretion depends largely upon the vigor of the blood circulation. The production of fat depends mainly upon the temperament of the cow, gentle handling and feed rich in protein. Violent disturbance of her nervous system has a disastrous effect upon the cell action and capillary activity in most cases. Arteries, veins and nerves together pervade the whole of the udder structure. New ducts, such as those referred to in No. 7, are formed by branching or sprouting out from others. Rubbing of the udder, rapid and clean milking will promote their growth and development until the sixth year. A pressure of fat in the connective tissue on the gland interferes with and hinders the secretion of milk. You see, therefore, that the cow must be treated with carefulness and judgment. I have very little to say about the handling of milk. Too many of our cows, both in the summer and the fall, have the milk drawn from them by wet hands. This is an abomination, as a man who milks a cow with wet hands pollutes the milk. And let me say here that I think that the men should milk cows; my friend Derbyshire, here, says I must have changed my mind since I left the farm. Immediately after the cows are milked the milk should be strained with the utmost care, as there are always some things in the milk which it is not desirable to have there, and the sooner they are removed the better. The next treatment required is aëration; to bring the milk into contact with the air, or the air into contact with the milk, to purify the milk. The odor or smell of the cow can be evaporated in that way, and that purifying process should always be attended to. Apart from the purification, aëration is also helpful in the preservation of milk. The tiny microbes which work for the decomposition of milk can act only at the beginning of their activity where there is an absence of free oxygen. There is always oxygen in pure air, and if you bring that into contact with the milk you make it impossible for these microbes to act. These things by their action change part of the casein into such a condition that the rennet will not thicken it, and there, again, you have a reason why it takes so much milk to make a pound of cheese in the summer time when the milk has not been aired. Examined with the lactometer it is all right, the solids are there, but the rennet will not retain them. Therefore, have your milk aired. Cooling is rather unnecessary; it is merely a matter of convenience when the milk is carried a long distance, and should not be allowed to interfere with the good qualiy of the milk in the fall of the year. I think it is never desirable to cool milk below the temperature of the atmosphere, if it has been properly aired first—I mean for cheese factory work. Where it is wanted for long keeping, cooling will merely make it retain its sweetness longer. Having said so much upon that aspect of the question I will pass on to the consideration of our factory equipment—buildings, utensils, and so on, in which we are very far behind indeed. Cheese factory buildings are not on the average such as are adapted to the present requirements of dairying. They should be constructed in such a way as to enable those managing them to have perfect control of the temperature. I find from the reports of instructors in western Ontario, where the factories are thought to be better than they are here, that many of them are very imperfectly constructed in this respect. The equipment of utensils is quite inadequate to the needs of the present system of cheese-making, and in many instances they are kept in such a state that the less they are used the better for the cheese. There is also improvement needed in the class of men who are employed in running cheese factories. The men who run our cheese factories to-day are not men of the same ambition they were ten years ago. In many instances I find the sole ambition of makers is to make a cheese that will pass. Ten or fifteen years ago there was a feeling of rivalry between makers to make cheese that would please—to reach a higher standard that would please everybody, the eater included. That is what is wanted. We want cheese-makers who are enthusiastic about their work, and will take the pains to make themselves masters of all the details of their business. I am not going to speak of our cheese at present. I shall speak on that a short time to-morrow. I need not refer to prices beyond saying that even during a year of depressed prices, such as we have passed through, I can say that no part of the farm work has left the same profits this year as the cheese-making and dairying industry. If that can be said after a year of low prices, with 2,235 pound cows that take five acres to feed, what could we not do in a good year, with the right kind of cows rightly fed and with buildings and appliances of improved utility. That leads me to speak for a short time on the future. The future of dairying, to my mind, is bound up with the future of the farmers of this province of Ontario. If by any means the farmers of this province can have their energies awakened into action they will make lots of money out of cheese, but if they cannot be led to think and read and work for themselves they can never, by any extraneous process or method be helped very much. Therefore let us work at the man who keeps the cow that gives the milk that makes the cheese. In doing so we get these individuals waked up into acting intelligently, and if we do so our success is assured. The foundations of the business will be established, its field extended, its profits increased, and our reputation will certainly be much higher than it is at present. We want better cows kept by better men, better and yet more economically fed so as to produce better milk ; we need the highest class of men that can be induced to be cheese-makers, for the cost of an extra ten dollars or so a month is nothing compared with the desirability of supporting and strengthening our prime industry of cheese-making. We require besides, to have a cheaper summer feed for our cattle. You will find by carrying silage from one winter to the following summer that it is possible to get the cheapest food for your cows. Then, having this, you will find it possible to make cows milk at least ten months in the year, and you should begin the milking season, not in March or April, but in September or October. If you want to make the cheese factory profitable make your cows come in in September, and then when you close your cheese factory as a cheese factory open it the next day as a butter factory, and run your one set of buildings and apparatus the whole winter through, and keep the skim milk for the purpose of raising the best class of calves. When the spring comes the calves will be raised, and you will not need the milk and can send it to the factory. I think winter dairying is full of the greatest promise to Ontario—full of great possibilities. If we only avail ourselves of these new openings for the exerercise of intelligence ; these starting points for new enterprise and the achievement of new results we shall have no occasion to be ashamed of either the past, present, or future of our dairying industry.

SECOND DAY—MORNING SESSION.

The Convention resumed at 9.30 a.m., the President in the chair.

The Question Drawer was opened, and the following questions read by the Secretary and answered by Prof. Robertson:—

Q. How many times a day should a cow be fed?

A. I think twice a day when in the stable; in the morning and at about 4 or 5 o'clock in the afternoon. For fattening animals a great many of our best feeders say twice is too seldom, and recommend feeding three times. I have not tried fattening cattle.

Q. Would you recommend hand stirring of the curd while the whey is draining off?

A. I certainly would.

Q. Would any difference be made in the quality of cheese by using old milk, if it was kept sweet?

A. If it is kept sweet, the quality of cheese will be improved by using old milk, but if it is sour it will be injured.

Q. Would it not be well for this Convention to take into consideration the advisability of sending out instructors to hold public meetings at central points for the purpose of educating farmers in the curing and handling of milk to be sent to cheese factories?

A. I think it would be very advisable. I think this Association should make use of every available means for that purpose, both by personal instruction and by circulars.

Q. If milch cows are fed all they can take of succulent food, green corn fodder, or pease and oats cut green, during the summer months, will the increased quantity of milk be equal in quality to the milk of cows not so fed?

A. It will be equal and superior if the feed be pease and oats, and equal and superior if the fodder corn be supplemented by bran or 1½ pounds of pease meal per day. Fodder corn alone, especially that fed in an immature state during August, gives milk deficient in fat.

Q. Is the milk as good when cows are fed with bran from a roller mill as it is when the bran is obtained by the old-fashioned process?

A. I think the roller mill bran is rather better to be fed with corn fodder than the old process bran; it contains less starch and more albuminoids.

Q. Can you make a fine cheese from milk that has not been aërated?

A. It is difficult to make a fine keeping cheese from milk which has not been aërated.

Q. Do you think it necessary, in order to get the same amount of cheese from your milk to aërate in the fall, and the colder part of the season as well?

A. I think you will always get a larger yield of cheese from milk that is aërated, because aeration causes it to coagulate more easily under the action of the rennet. In cold weather milk is aerated to a large extent while being drawn from the cow. In hot weather carbonic acid is formed so fast that this air is expelled, so aëration is more essential in warm than in cold weather.

Q. Do you think better results would be attained if the milk produced in the fall of the year were kept in some warm place rather than on the milk stand?

A. Yes. During October I think milk should not go below 65°; leaving milk on the stand in the fall has a tendency to cause pasty cheese.

Q. Should rye for early feeding be fed green or cured, or at what period of growth can it be fed most profitably?

A. I think it should not be fed cured, but wilted; allowed to grow until the grain is just forming and then cut and fed wilted. If fed early, I think some food rich in albuminoids should be fed with it.

Q. What proportion of pease and oats should be sowed to the acre, and how much?

A. One bushel of pease and a bushel and a half of oats is satisfactory, and is what I have sowed. In having them mixed the oat stalks help to carry the pea vines up. I think that rye would come in as the best and earliest feed crop we can sow with advantage. I would sow two bushels to the acre, and at the same time fall wheat is sown. After rye will usually come in some clover, and after clover, oats and pease, and after oats and pease you have good corn, which, in combination with bran, or pease meal, is the cheapest crop to feed.

Q. Do you think vetches better than pease?

A. We have not found them to be. They are better in England, because there they grow larger vines. I almost invariably sow oats and pease or oats and vetches, and we find in our own practice that oats and pease give more feed.

Q. Are not vetches higher in albuminoids than pease?

A. I do not now remember the result of the analysis.

Q. Explain how it is that if a cheese-maker takes 4 per cent. off the weight of milk it does not make a difference to the patron? (Laughter.)

A. If I were a special pleader for that man I could make out a very strong case for him, but at the same time I would not recommend any man to take 4 per cent. off. If a man takes 4 per cent. off every patron and treats every man alike, and puts them on the same scale, they would get back their money in the same ratio; and unless he gives 4 per cent. to the cheese buyer—which he might do—it would make no difference in the result to the patrons. I think the safer plan, to avoid suspicion, is to credit every man with the exact number of even pounds in buying and selling. (Applause.)

Q. Do you think it just to give the man who does not take proper care of milk the same weight as one who sends a good deal and takes proper care of it?

A. I will answer that this way. I don't think that milk which is badly cared for is worth as much per pound as milk well cared for, and the logical consequence is that the man should not get as much. I would prefer rating the milk, 1, 2, 3, and so on, and paying a man who sends fine milk 4 or 5 cents per hundred-weight more, but not making a difference in the weighing.

Q. In the course of your remarks yesterday you said that the cheese-makers of to-day had not as much energy or ability as those of ten years ago. In what way did you mean that? Is it not that the best men are going out of the business?

A. As far as I remember, I said that if cheese-makers were not remunerated well the best men would not be attracted to the business. Fifteen years ago many of the brightest and best farmers' boys wanted to be cheese-makers, but now-a-days the cheese-maker is crushed down to the level of the unskilled laborer, and expected to work for a dollar or a dollar and a half a day for six months. The skilled laborer should be rewarded at three times the rate the unskilled man receives. If the standard of cheese-makers' wages were raised to $100 per month you would increase your profits from cheese-making 500 per cent. in two years. (Applause.)

A MEMBER.—Where would the manufacturers' profit come from?

Prof. ROBERTSON.—Raise the rate on the patrons at the factory. (Hear, hear.)

Q. If a patron sending milk to the factory in order to preserve the milk adds water, and it is weighed by him and deducted by the maker, does it injure the milk? Can he be prevented from doing this?

A. I think he can be prevented by a complaint being made that his milk is adulterated, but I don't think that should be done in the case of a man who uses ice for his milk. Putting ice *in* the milk, however, is a bad practice, and if I were a cheese-maker I should try to prevent it, but I think the use of ice around milk that has to be kept from Saturday night until Monday is a good practice.

Q. If the ice comes in contact with the milk, does not the sudden change injure it?

Instructor BISSELL.—I have experimented a good deal in using ice in milk. Fifteen years ago I used to have ice in the milk, and there was always a white whey pressed from the cheese, but when no ice was used I got good, fair whey. I could not make as fine cheese when I used ice.

Instructor WHITTON.—Mr. Bissels experience is just the same as my own wherever ice was used in milk.

The PRESIDENT.—It is the general experience that ice used in milk has bad results.

THE HOG AS AN ADJUNCT TO THE DAIRY.

The President then called upon Prof. Robertson for some remarks on the subject of "The hog as an adjunct to the dairy."

Prof. ROBERTSON.—Dairymen who support cheese factories neglect one of the best servants they can have in the animal creation, when they do not avail themselves of the hog to aid in making money from the by-products of milk. It is not my intention here to speak of them as consumers of skim milk or buttermilk, but mainly as consumers of whey. The attitude of farmers towards the pig has always been an unfriendly one. It is a popular saying that "the only good Indian is the dead Indian," and farmers seem to cherish the same belief in regard to the hog—they believe the only good hog is the dead hog. This opinion, however, is in direct opposition to the best interest of the men who keep cows, because for every cow kept upon a farm there should be at least two pigs. A man who keeps twenty cows should fatten forty hogs every summer; the man who keeps ten cows, twenty, and if he does he will find, perhaps to his amazement, that this little branch of business is bringing him in more money than he thought could be made from it. Whey is a valuable hog feed. There is nearly seven pounds in every hundred pounds of whey which the hog can use to advantage. The composition of whey is as follows:—water, 93 per cent., nitrogenous substances, 0.92 (or nearly one per cent), fat, 0.35 (one-third of one pound of fat in every hundred pounds of whey), milk sugar, 4.65, lactic acid, 0.33 (or one-third of a pound in every hundred pounds), ash, 0.75, or three quarters of one per cent. These elements of food-value in whey should produce at least two pounds of live weight in hogs. One hundred pounds of whey, fed in the most judicious manner, should produce two pounds of pork; it will not do it when fed alone, but fed in combination with other foods it will.

In selecting, a man should choose profitable sows, just as he would select a profitable cow. A man who knows well enough that unless he has a good dairy cow he need expect no profit, often thinks that anything that grunts and squeals will make money for him out of its feed, but the squealing and the swilling are the main part of it with some hogs. In selecting a sow, she should be selected first for her length, then for her depth, and then for her breadth. The three qualities should be valued in that order of merit, length, depth and breadth. A long, narrow sow is to be preferred before a short, broad one. A sow with a broad back and head always takes the eye; but look first for length, next depth, and then breadth. A sow should be made to farrow in March or April and in September. In feeding, a breeding sow should never be fed upon swill. As a German friend of mine, in the west—one of the best hog husbandmen in the country—said one day, "Schwill ish poishon to a sow." A breeding sow should always get as much salt as she likes to take; her food should be salted and she should have access to salt besides; she will not thrive without it. The quarters of a breeding sow during winter, when kept for producing pigs for whey feeding in the summer, must be comfortable. The breeding sows of this province too often lie under straw-stacks, or out in open sheds, and the other pigs which are being wintered lie with them, and on them, to make more warmth. Dead pigs and sickly-looking pigs are the consequence, because the sow has been kept in an unsuitable place. The atmosphere of carbonic acid and ammonia, arising from the dens in straw-stacks, would smother a man in half an hour, or less. The pig is more like a human being than any animal we know of—(laughter)—therefore have their sleeping quarters well ventilated and dry. Then the little pigs should always have access to cold water for drinking, which will make them grow far bigger and stronger. Just a word as to the boar. He should be selected in the same way as the sow; for length, depth and breadth. A boar should have big bones, for small bones are indicative of a weak constitution, and a disposition to lay on lard instead of muscular flesh. A plentiful supply of hair indicates a strong constitution, and a predisposition to lay on muscular flesh. Young pigs should be suckled for at least three months; if they are weaned when five or six weeks, or two months old, they will not do nearly as well. A sow that breeds twice a year might just as well suckle three months as one month, and will do it just as well if properly fed, and the pigs will grow so much the better. The sow must be fed properly on shorts, pease, wheat, bran and other rich foods. If you feed a sow on one kind of grain she will not do well; feed her on two kinds and she will do better, and feed her on four sorts of grain and she will do better yet.

In fattening these little pigs they should have the trough room in length, not in depth. The hog troughs I see around the country seem many of them to have been constructed with the object of affording bath accommodation for the pigs; so deep and wide that the pigs take headers right into them. The room should be in length, not depth, for all kinds of hogs, and the trough should be kept clean. Pigs have the reputation of being filthy animals, but a pig will keep itself clean if it gets instruction in that way for one week and a good example. The feed for little pigs should be sweet, and not sour food. In the souring of whey some of the sugar is converted into acid. Lactic acid has no feeding properties. It has a slightly helpful digestive action, so that whey which is sour will do a pig no harm, but part of the food value has been lost. If a pig be fed some grain with sour whey, the sourness in the whey will have an anti-feverish action—will tend to allay fever in the pig's inside, caused by devouring a large quantity of grain. At the same time, *sour* whey is extravagant food and unsuitable for pigs. All meal fed with whey had better be mixed meal, and rich in albuminoids; that is, flesh formers, like pease, wheat, shorts and bran. And here let me say, in this age of cheap wheat, when a man can grow thirty bushels of goose wheat to the acre, he can never market that so well as through his pigs. I find it one of the best foods for pigs, fed in combination with whey, and it can be grown everywhere. It is worth $1.25 per bushel when pork sells for $6 per 100 pounds live weight, and it is worth more than that in connection with your dairy. I have bought it for 75 cents per bushel when other wheat was selling for $1.10, and I have always found it the cheapest food I could get for pigs. Then, with their mixed food, pigs should always receive a liberal allowance of salt every day; and when fed on whey in hot weather, charcoal with the salt. Wood ashes might take the place of charcoal. A very small quantity of saltpetre and sulphur once a week would help to keep them thriving when the whey is rather sour, as it sometimes will become in spite of the best of care. I make a mixture of four times as much charcoal as salt, and then about an ounce of saltpetre, and two ounces of sulphur to every pound of salt. I would allow the hogs to take all they like. That is the best feeding practice I have seen adopted in the west. The pigs should have some green food in the summer time, and half an acre of clover will yield you the best returns in pork when fed to pigs that are fed on whey and grain in combination therewith. Then, after clover comes in, oats and pease; the very same crops you grow to feed cows to make milkers, can be fed with advantage to pigs at the same time. Then I find that Mammoth Southern Sweet Corn, fed to pigs during September, is capital food. Throw the stalk right in the pens, and if they have a good deal of rich food, like pease, shorts and milk, or even whey, they will thrive all the better for some of that corn. Then the sleeping quarters of these pigs that are being fed should be dry, clean and well ventilated. The best weight at which to sell pigs to realise the highest price per pound and the most liberal returns for food consumed is from 150 to 200 pounds, live weight. The farmers of this province will not sell a light pig, but it does not pay not to do so. Pigs will gain more pounds live weight for the food they consume up to 75 pounds than during any other period of their lives, and yield you more pounds of pork to the pounds of food. After that, from 75 pounds to 100 pounds, it requires 10 per cent. more food to make every pound of pork. That is, 100 pounds of food fed to pigs under or at 75 pounds weight will give you as much weight in pork as 110 pounds of food fed to pigs weighing from 75 to 100 pounds. From 100 to 150 pounds live weight 17 per cent. of more feed is required, while up to 200 pounds live weight 24 per cent. more food is required for every pound, and from 200 to 300 pounds 34 per cent. more food is required. So a man keeping a hog until it weighs 300 pounds live weight, trying to make the most out of it, is paying almost one-sixth more to produce every pound of pork than it costs between 100 and 150 pounds. I may sum up by saying: By selecting good sows, doing nearly all the feeding in the summer time instead of winter; by feeding in winter only in stables, kept clean and dry and well ventilated, you will find it possible to make a good deal of profit from hog feeding; always bringing to market hogs at 160 to 220 pounds weight, and at an age of from six to eight months. By that means you will find that the grain food a hog consumes will give you nearly twice as much money through pork as when you sell it upon open market. Then hog manure is one of the best fertilizers we have. In feeding hogs little should be taken off the farm, and much left on it of manurial value, and large money returns be realised in addition. For these reasons I believe the hogs of this province are an unrecognised and undeveloped source of wealth for men who will endeavor to understand them and use them well. (Applause.)

A MEMBER.—How far from the factory should the pen be kept?

Prof. ROBERTSON.—As far away as possible, and the pen should be kept in such a state of cleanliness that none of the foul odor shall reach the cheese. I think the best way is to have it at least thirty rods distant, but, if the yard is close by, it can be kept clean by proper drainage.

THE SOIL, THE PLANT AND THE ANIMAL.

Prof. Roberts of Cornell University, Ithaca, N.Y., then addressed the members on above subject. A report of this address will be found in the proceedings of the Western Dairymen's Convention.

Prof. ROBERTSON.—As Prof. Roberts has to leave us before the next session, I desire to take the present opportunity of moving that a hearty vote of thanks be tendered him, for his eminently practical addresses of both yesterday and to-day. One thing you will have observed in connection with all he has said to us—he has kept nothing back. Whatever item of knowledge has come within his grasp, has been given to us freely and without reservation.

Mr. DERBYSHIRE.—I have the most sincere pleasure in seconding the motion just made. I have never heard addresses so easily and practically delivered as those we have had the privilege of listening to from the professor during these meetings.

Mr. MACPHERSON.—Before the motion is put, allow me to say a few words to express my feelings. We are always glad to have Prof. Roberts with us, he seems to be our fancy, I might say, and he on no occasion falls behind our expectations, but generally goes beyond them. He has during the present convention, placed in our possession a fund of knowledge and store of facts, which, if acted upon, cannot fail to be in the highest degree beneficial to us.

The PRESIDENT.—I can only say that I was never better pleased or more honered than being privileged to put this motion to the meeting, and I feel assured that the thankfulness expressed is no mere formal show, but is deeply seated in every heart among us. (Applause.)

The motion was then carried.

Prof. ROBERTS.—I thank you most sincerely gentlemen, for your kindness; you can hardly realise how gratifying this expression of your feelings is to me. Sixteen years ago I gave a lecture over at Norwich, in New York, the first I ever gave in the east, on "The Feeding and Treatment of a Dairy Cow," a paper upon which I had spent more time and thought than I ever spent on any paper since that time. It was a lecture, it seemed to me at the time, that went down to the very root of the matter, and one which I supposed, coming from the west as I did, would be appreciated in the great state of New York. In that lecture I recommended the use of hot water for cows, and sir, I was hissed off the platform. I was called a "Straight Haired Professor;" asked if I had ever held a plow; and all kinds of sarcastic questions. In the evening there was a banquet, at which 400 or 500 people were present, and they toasted me in hot water. When I went home to some honorable's house to sleep, I never closed an eye that night. That was my reception at the first public lecture I ever gave in the state of New York. I didn't know what the matter was, whether it was Roberts or the people. I began to think, that perhaps, after twenty years of toil and effort at something better, I was a failure. You can't understand my feelings. There was not a single friendly face in the audience. Now, I will tell you the happy part of my story. I did not stop, I went on trying; never even threw back anything, but stood it quietly, believing I was right, and that I was misunderstood; that prejudice was so strong in the state of New York against professorial teaching of agriculture, that it would not do to thrust a single idea, no matter how good, into these minds, until that prejudice had been allayed, and I waited patiently fourteen years, and then went back to Norwich, just two years ago this winter. I delivered an address again, on "Feeding and Watering the Dairy Cow;" it was not the old one—though I had a notion to read the old one—but a new one; as I thought I could write better, and I gave it to them thicker than before. Well, I gave that lecture, and men jumped up and asked this question and that question, and everything went as smoothly as a marriage bell. When I got through I saw my time was up, and I turned to the chairman and asked him how many years it was since a dairymen's convention had been held at Norwich. He told me, and I said, "Yes, I remember that meeting, it was hot for me," and I told the audience the little story I have been telling you—of course the audience was largely a new one—of how they had used me there fourteen years before. Then Hon. Harris Lewis, that grand old man, who was one of those who had sat down on me, got up and said in that quiet easy way of his, which no one could ever imitate, "Roberts, let us down easy, you have got us." I would like to say one word before parting from you. I think you don't appreciate all of your blessings as you ought; it is a way we have of not recognising them until they are beyond our reach, and it is too late. Now, if there is any body of men in the wide world who will hunt for a good man, and know one when they find him, it is the five members who constitute the executive committee of Cornell University; the shrewdest, sharpest men I have ever met; men who have managed our vast estate as wisely as it could be managed. Well now, these men, looking around over the whole of the United States, and Canada and Europe, to find a man, and not only a man, but the very best man that could be had,—and if $2,000 would not bring him, they would give $5,000, but they would have the best—to give instruction in dairy husbandry to our young men, after much correspondence and enquiry selected Professor Robertson. Now, what I want to say to you is this, hold up the hands of Prof. Robertson, in whom you have one of the greatest men in his line of work and in the science of dairying that is living to-day.

The Convention then adjourned until 2 o'clock p. m.

AFTERNOON SESSION.

Upon resuming in the afternoon, the President called for the report of the Auditors, which was presented and read by the Treasurer as follows:

AUDITORS' REPORT.

ABSTRACT STATEMENT OF RECEIPTS AND EXPENDITURES.

P. R. Daly, Treasurer, in account with Eastern Dairymen's Association.

RECEIPTS.

To balance from last audit	$ 469 17
" Members' fees	100 00
" Government grant	1,500 00
	$2,069 17

EXPENDITURES.

Annual Convention at Peterboro—	
Staff speakers	$220 00
Reporters, Auditors, printing and others expenses	292 80
Board meeting, Kingston	148 55
Grant to Agricultural Exhibition	200 00
Cheese instructors, Whitton & Fields	600 00
Salaries and stationery	165 00
Balance in treasurer's hands	442 82
	$2,069 17

We have examined the Treasurer's books and statement of receipts and expenditures in detail, and having compared vouchers with said statement, have found them correct and the books kept with commendable care.

J. G. FOSTER,
THOS. J.MILLAR, } *Auditors.*

Smith's Falls, January, 8th 1889.

We beg further to submit the following statement of receipts and expenditures in connection with the inspectors' fund.

We find that your Treasurer has received from factories		$605 00
That he has from this fund paid to inspectors	$565 00	
Postage and stationery	5 00	
		570 00
		$35 00

Leaving a balance in his hands from this fund of thirty-five dollars.

J. G. FOSTER,
THOS. J. MILLAR, } *Auditors.*

On motion of D. Derbyshire, seconded by D. M. Macpherson, the auditors' report was received and adopted.

ELECTION OF OFFICERS.

The following Report of the nominating Committee was then read.

To the President, Officers and Members of the Eastern Ontario Dairymen's Association :

Gentlemen,—Please accept your Nominating Committee's Report as follows :

President	D. M. Macpherson, Lancaster.
1st Vice-President	Jas. Haggerty, West Huntingdon.
2nd Vice-President	F. McCrea, Brockville.

Directors :

Division No. 1	Wm. Eager, South Mountain.
Division No. 2	E. Kidd, North Gower.
Division No. 3	Jas. Bissell, Algonquin.
Division No. 4	D. Vandewater, Chatterton.
Division No. 5	Platt Hinman, Grafton.
Division No. 6	Henry Wade, Toronto.

Auditors.

J. G. Foster	Moira.
Thos. J. Millar	Spencerville.

Respectfully submitted.

PLATT HINMAN.
D. VANDEWATER.
JAS. BISSELL.
E. P. BRINTNELL.

Mr. D. DERBYSHIRE moved in amendment to the Report, that the name of Mr. M. K. Everetts, Easton's Corners, be added as a candidate for the Presidency.

The name of Mr. Everetts was accordingly added, and the vote for President being taken that gentlemen was declared elected.

On motion, the remainder of the report was adopted as presented.

REMARKS OF THE PRESIDENT ELECT.

GENTLEMEN,—It affords me much pleasure to have been elected as the President of the Eastern Dairymens' Association, a position which I consider one of the most honorable a man can hold in this province. I am aware that the position is one calling for the exercise of much judgment and ability, and that there are others who are better qualified and equipped for the discharge of the onerous duties appertaining to it than I can hope to be, but with the assistance of the able board of directors you have elected, and the vice-president, I hope to be able to successfully discharge the duties which devolve upon me. I assure you that no effort shall be wanting on my part to advance the interests of the Association and to further in every way the progress of the dairying interest, and I hope at the end of 1889 it will be found that our united efforts have placed us a step in advance of the past year. I know that you all understand my feelings on this occasion much better than I can express them, and shall therefore detain you from the enjoyment of what is to come no longer than to once more say I heartily thank you for the great honor you have done me; and shall do everything in my power to prove myself worthy of the confidence you have placed in me.

REMARKS OF THE RETIRING PRESIDENT.

Gentlemen,—It may not perhaps be out of place for me on retiring from the honorable position which by your pleasure I have held during the past year, to thank you for the hearty manner in which you have assisted me in the discharge of the duties of President. I have labored hard in the interests of the Association, and if I have been lacking in any particular, it certainly has not been for the want of a firm and earnest desire on my part to serve you well, and I trust you will look with a lenient eye on whatever short comings you may have observed in my discharge of my duties as President.

On motion of Mr. H. Bissell, seconded by Mr. McCrea, the thanks of the Association were tendered the retiring President, Mr. J. K. McCargar.

An address on "Cheese-making for Beginners," which will be found in the Report of the Proceedings of the Western Dairymen's Association, was then delivered by Prof. Robertson.

REPORTS OF INSTRUCTORS.

The reports of the Instructors were then read as follows:

Report of Milk Inspector Rollins.

Mr. President and Gentlemen:

I take great pleasure in giving you this, my first report as milk inspector for the western division of the Eastern Dairymens' Association. During the season of 1888 I inspected the milk in about seventy factories. The majority of these I inspected twice. In some cases I found it necessary to inspect three times, that is in factories where I had strong suspicion that patrons were adulterating or in any way tampering with their milk.

Knowing, from my short experience as milk inspector, the good that has been done during the past season in trying to get patrons of cheese factories educated to the fact that it pays best to send clean and unadulterated milk to the factory, I would strongly advise this association to continue in the good work which we, as dairymen, consider so well begun.

Let me here take this opportunity to state to this association that there was a great difficulty in connection with the inspection of milk from several causes, some of which are as follows:

1st. The majority of factorymen did not respond to the call of the association until the latter end of May or first of June. Quite a number not until the middle of the season, and not a few until the season was two-thirds gone.

2nd. The wide territory to be covered, which was very much increased from the fact that in a great many cases it was found necessary, to avoid detection, to retrace my steps and drop down upon a factory where I was least expected.

3rd. Where I found much suspicious milk it was sometimes found necessary to spend two or even three days at one factory in order to establish the fact that the suspicious party or parties was guilty, or to satisfy ourselves and also the accused, who might be innocent, that no injustice was being done and thereby make patrons of cheese factories feel that what we want is justice, and justice only. Thanking you, Mr. President and gentlemen, for the time and attention given me,

I remain your humble servant,

Robt. Rollins.

REPORT OF INSTRUCTOR WHITTON.

Mr. President and Gentlemen :

With pleasure I submit to you my sixth annual report as cheese instructor and milk inspector. I visited fifty factories and gave instruction to cheese-makers. I found in most cases the cheese-maker was doing his utmost to secure a fine quality of cheese, but in not a few instances it was up-hill work, as the greater part of the trouble lay at the door of the careless and slovenly patrons. There are too many who appear to think as long as they get the milk off their hands it is all that is required. Thanks to our Ontario Legislature we have a remedy whereby we will be able eventually to stamp out this existing evil.

I have much pleasure to be able to report to you that the cheese in the Belleville and Peterboro' sections is every year being more looked after in the world's market on account of its superior quality, but we cannot afford to stand idly by as our American cousins are looking at us with jealousy. On my tour through the country I had occasion to see into at least 150 factories, and from long experience would say there is a great improvement both in the art of cheese-making and the style of curing and manufacturing rooms, more especially is this so in the county of Peterboro'.

My attention after the 21st of May was more in the direction of inspecting milk. While this is, in my opinion, the best move the Eastern Dairymen's Association have taken outside of sending cheese instructors from factory to factory, still I would strongly recommend, if it were possible, to go on with the instructors, as the two combined make it a very slow way of doing the work, it being very hard work to accomplish one factory per day where you inspect milk. As you are aware, Mr. President, it frequently requires most of the day to be able to inspect the milk properly. It is an old adage "A stitch in time saves nine," and with an instructor going from factory to factory who thoroughly understands his business a few suggestions would often suffice.

I inspected the milk in thirty-five factories the greater portion of them I inspected twice, making nearly 4,000 samples. You would be suprised to see how many little, petty stealings occur, such as taking a little cream off for puddings and berries, green peas and beans, etc., besides sundry mishaps, such as letting a pail of water slip into the milk the day I happened to be at certain factories. Very few of those mishaps were visible on my second trip.

The method of inspection was this : When I found a patron's milk slightly below the standard I wrote him what was the matter or trouble with it. I had occasion to send at least 500 of those letters. But in a great many instances it was necessary for me to go and see the cows milked, personally, and in the majority of caes I found my suspicions too well founded.

In conclusion, I would say that I must thank Mr. J. K. McCargar, the president of this association, for his untiring efforts in assisting to further this good work, which I hope, in a very short time, will show patrons of factories that honesty is the best policy.

JAMES WHITTON.

On motion, duly made and seconded, the reports of the instructors were adopted.

GOOD STRONG BOXES WANTED.

MR. ALEXANDER.—I think the boxing of cheese should receive more attention than it does at present. I have here a letter I received from England some time ago, which I think it will be well to read. It is in reference to a lot of cheese sold to a firm in England, and here is what they say : "We are disappointed with this shipment of cheese. Had you told us the factory it came from when you offered this cheese we would not have bought it. We always avoid that factory, not so much on account of the quality of its cheese as its size and shape, and the condition in which they arrive, to which this shipment is no exception. Out of a load of 125 cheese just taken in there are only three perfectly sound boxes. You can readily understand that this detracts from the value of the cheese, making a difference in the value of from two to three shillings per cwt. The shape also is somewhat against the cheese; many of our customers object to such large, flat looking cheese, and prefer a more upright one, of about sixty-five pounds. When buying for us in future please be more particular on this point. We think it might do some good if you would point out to factorymen the necessity of having good strong boxes. We find that the boxes stand better when made to fit closely to the cheese instead of having a space of nearly an inch all round." I hope all present will make a note of the suggestions contained in this letter.

THE LESSONS OF THE CONVENTION.

The following remarks were made by Mr. D. M. Macpherson, of Lancaster:

Not having before me any special subject, I purpose making a short review of the facts set before us at the present convention. We come here, as has been stated, to learn something, and not only to learn something, but having learned it to carry it away with us, and when we get home put it into practice. Professor Roberts started out this morning with his very remarkable paper on the principles of farming. That is a question which has not been sufficiently studied by our farmers. When I say the principles of farming, that covers a great deal of ground, it covers the production of everything, in fact; the production of raw material of various kinds, of grain, of grass, of milk, cheese, butter, beef and all other materials produced on the farm. The first grand principle, from which we are to start and study each of these other things, is the development of the fertility of the soil, and the health or adaptability of the animal. For when we ask the question what it is that produces on the farm, there are only these two things, the plant and the animal. Both plants and animals have to be fed to live, and all life is sustained in proportion to the class of food received. Now, the study of the plant is the first grand principle which should receive our attention. The question comes up here in our discussions; the food of young animals, of growing animals, of matured animals; the best balanced ration under all conditions; the maintenance ration, the milk ration, the fattening ration and the growing ration, and we have discussed it very intelligently, and in the right direction. But, gentlemen, in farming as in all business, we should approach our work in a systematic way at the beginning, and follow the development of that system, so that all the parts will assist and grow and mature to one end and purpose, that is the producing of more profit. Now, in all systems there is a beginning. It is impossible to improve or develop a system if we begin in the centre. If the farmer begins improving his stock, or his implements without first improving the fertility of his soil he is beginning in the centre, and every additional improvement he makes carries him further away from that starting point to which he must return before he can expect to reap the full measure of success from any of his improvements. Our first study should be to feed the soil and to feed the plant; to put the plant food in the soil in such a favorable condition and suitable quantities as will promote the most vigorous growth of the plant. Then when you have brought the plant to a state of vigorous growth you are supplying the requisites of animal growth and development. We should study and discuss the food of the plant as we do that of the animal itself. Just as in animals the growth and quality is determined by the quality of the food upon which their development is sustained, so in the plant its vigor and profusion is regulated in proportion to the food it receives from the soil. Hence it becomes a matter of the utmost importance that every farmer should study this question of supplying that food to the plant which is most adapted to promote its growth and development to the fullest extent, for we know it as a fact that in agriculture, as a business, it is by selling the surplus over and above our own immediate needs that we derive the money necessary to cover our expenses and provide us with a profit to be expended in other directions. If we only put into the soil those elements of food which will produce but an imperfect growth of the plant, we cannot expect to have a surplus for our profit; the most we can hope for is the supply of our more immediate requirements, and very often we are behind; but if we can grow twenty or thirty bushels of wheat to the acre, or sixty bushels of oats—both of which are quite possible—or thirty tons of green corn, or three tons of clover, or two tons of timothy hay, then, I say, we are making a profit. But these results can be attained only by feeding the plant; you can only grow forty bushels of wheat to the acre by supplying the food constituents which go to make up that proportion of growth. It is a fact admitted by both scientists and practical men that the growth of a crop is in proportion to the lowest amount of any one element in the soil. We know it takes eight or nine different elements to supply a plant with nourishment. Take, for instance, lime. If there is only sufficient of that element in the soil to serve for the production of twenty or fifteen bushels of wheat to the acre, the wheat cannot receive that nourishment through any other channel than the soil, or what is put in the soil, and if it is deficient to the extent of ten, fifteen or twenty bushels to the acre you can receive only that quantity as the maximum product of that soil. It is only by supplying to the soil a balanced ration, so to speak, that we can attain the best results. Now, how is this feeding of the plant to be accomplished? My own idea is that we must turn right round in the business of farming. Is it not a fact, taking your own experience, that throughout this country we consume in the winter what we have produced in the summer? It is a general expression that the winter in this country is something which is a loss to us; that we only produce in the summer to consume in the winter, and that if it were not for the long winters this would be the best country in the world to live in. I have studied this subject carefully as far as I have been able to, and I tell you as my opinion that the fall is the beginning of the season to the farmer; and that just in proportion as you intelligently accumulate plant food in the winter will be the growth of your plant in the summer, just as when you are feeding and caring for your animal in the winter you are preparing it for yielding a large product in the summer. Now, when in the winter you are feeding your animal to prepare it for a large product in the summer, you are at the same time preparing the plant food for the summer growth. Now, if the results of the farm are determined by your labor in the winter to a large extent, the winter work must be the most important work on the farm. I say that we must reverse the general feeling throughout this country, and come to the conclusion that we will live during the summer by the results of our work in the winter, for it is the winter that produces the results on our farms. I hold that we farmers are working for nature in the winter, and in the summer nature will work for us, and I say that any man who will intelligently and carefully work for nature, in accordance with nature's laws, as was proposed by Prof. Roberts, can find no better security for results in the world; there is no better or securer investment to-day, than simply working in accordance with the laws of nature. Climatic conditions may sometimes be against us, but what you do not get this year you will get next year, under more favorable conditions. We are promised seed time and harvest time, and they are sure to come. Hence I make this strong point, to reverse the present order and habitual feeling of farmers, and to make the winter work the most important; to consider that the winter's work determines the results of the summer's work, and that we are working in the winter to increase our profits in the summer. All know that if a cow is not properly cared for and fed during the winter, the falling off in her product in the summer may be almost estimated. You know very well that if you allow your plant food to run down the ditches and creeks of your farm, and to percolate through parts of the soil where it will benefit no one—unless perhaps the doctor or undertaker—you cannot expect to reap its benefit in the increased fertility of your soil. How many farmers are to-day suffering from dyspepsia and fevers of a low order, owing to the injurious effects of the drainage of their barnyards percolating through the soil into the well, when instead of being a source of ill to them, it would if properly preserved be a source of wealth, health and prosperity. This is an important question, and having discovered the correct principles, we should act on them. Until we apply the principles we learn in these matters, we can never hope to become successful farmers in the full sense of the term. You will never find a really successful farmer who does not conserve and preserve the results of his cattle feeding through the winter, and yet we see and hear of men boring holes through their stable floors and adopting similar plans to get rid of their liquid manure, which are injurious to both the animals and themselves, when that manure properly preserved and applied is a never failing source of benefit to them. The liquid manure from every animal on a farm, is worth for six months of the year ten or twelve dollars, and with the solids is very nearly equal to the same. As the professor pointed out to-day, that very material which accumulates behind your barn, is that on which we exist; it only passes through the refining process of nature. Now, we can only estimate value by comparison. For instance, if you have a hundred bushels of wheat in your granary, which is worth in the market a dollar a bushel, you are safely worth a hundred dollars in cash. If you can increase the productiveness of your land five dollars per acre, and you have a hundred acres, you can calculate you are worth five hundred dollars more, for although your land is not money, it is the equivalent of money. Now, that which produces the increased fertility of the land, and consequently the greater yield per acre, is the barnyard manure, and if that manure can be put on the land at an expense of one dollar per acre, the manure itself is worth to you four dollars. It is an actual fact, that every load of manure properly saved produces five dollars, which, less the labor involved, is the value of that manure, and if that labor is only worth a dollar, the manure itself is worth four dollars profit to you. One reason we do not appreciate the value of barnyard manure, is because we do not distinguish clearly the value of the increased production. The value of every farm and building in this country is determined by what it will produce in rent. If a bank pays ten per cent. on $100, that bank stock is worth $200; if it only pays five per cent., it is only worth one hundred. If a house in a village returns you a rent of $100 per year, the value of it is about $800 or $1,000. If land only produces one dollar per acre, it gives you a rent of one dollar per acre; you have only the value of that dollar in the land, the value of the land depends upon what it produces. Now, if we can increase the value of our farms by saving this plant food, securing the elements necessary for the balanced ration, whatever is the increased value of the land, we must attribute to a large extent to that plant food. It is quite possible to increase the value of land one dollar per acre per year, for as I have just said, the value of every acre of land is determined by that which it produces, and if you can double the product, you double the value of the land. If we in this convention can only learn that one lesson, that the start of all successful farming lies in the saving of the barnyard manure, and thus feed our plants a perfectly balanced ration; in preserving and properly applying that material, which when neglected and wasted is a source of ill health and detrimental to our well-being, we have not met in vain, and in applying the lessons we have learned, we may confidently look forward with expectation of receiving a bountiful reward for our labor.

PRIZES FOR ESSAYS.

The Secretary of the Agricultural and Arts Association of Ontario, announced that that body had decided to give two prizes for the best essays on the following subjects:

(1) The cultivation of green crops for soiling and ensilage, and their value in farm operations.

(2) The advantages of a rotation of crops, as compared with the evils of over cropping.

The first prize to be $30 and the second prize $20. He hoped some of the young men present would be among the competitors, and that success might fall to their lot.

REPORT OF THE COMMITTEE ON DAIRY UTENSILS.

To the President and Directors of the Eastern Dairymen's Association:

Gentlemen,—We the Committee appointed to report on dairy utensils, beg leave to report as follows: That we have examined the milk aërators exhibited by Messrs. Macpherson, Strong and Millar, and would recommend their use to dairymen generally, as it is evident they would make a great improvement in the quality of milk sent to cheese factories. The milk stand exhibited by P. W. Strong we would also recommed to every factory man for adoption; also the patent cheese shelving and Macpherson patent whey faucet. The latter is a great improvement on the old style in use.

Respectfully yours,

Morden Bird,
James Whitton,
Howard Bissell,
Robert Wherry,
Committee.

Jan. 9th, 1889.

On motion the report was received and adopted.

RESOLUTIONS.

The committee on resolutions presented their report, embodying the following:

Moved by Mr. Wm. Eager, seconded by Mr. P. Hinman, That we recommend to the attention of the Minister of Agriculture, the desirability of making provision for the carrying on of experimental work in cheese-making in Eastern Ontario by Prof. Robertson, during the season of 1889.—Carried.

Moved by D. M. Macpherson, seconded by D. Derbyshire, That this Association empower the milk and cheese inspectors to prosecute all patrons of cheese factories whose milk is found adulterated, and that a committee of the board of this Association, composed of Messrs. Everetts, Eager and Haggerty, assist and advise in settling all disputes, and one-half of the fines and settlements received by such proved fraud by the instructors, be returned to the factories in which the fines were collected, and the other half be kept as a fund to this Association, for carrying on prosecutions.—Carried.

Moved by D. Derbyshire, seconded by Mr. Carlow, That President Everett, Mr. D. M. Macpherson and Prof. Robertson, be appointed delegates from Eastern Ontario, to the meeting to be held at Ottawa, to consider the advisability of forming a dairymen's association for the Dominion of Canada.—Carried.

Resolved, that the thanks of the Association be tendered to the railway companies which have granted reduced rates to the persons attending the Convention.—Carried.

Resolved, that the kindness of Mr. Ogle Carrs, in providing free of expense, a suitable hall for the accommodation of the Convention, merits the hearty thanks of this Association, which are hereby expressed.—Carried.

Resolved, that this Association hereby voices its gratification by the invitation of Messrs. Frost & Wood, to the members to visit their agricultural implement factory, by which much pleasure was afforded.

Resolved, that as an Association of Dairymen we hereby record our appreciation of the genial courtesy and generous hospitality extended by the citizens of Smith's Falls, during the continuance of this Convention.

Resolved, that the thanks of the Association be tendered to the press, for the full reports given of the Convention's proceedings.—Carried.

The meeting was then adjourned *sine die.*

III.—ONTARIO CREAMERIES ASSOCIATION.

OFFICERS OF THE ASSOCIATION.

President	D. Derbyshire, Brockville.
1st Vice-President	John Hannah, Seaforth.
2nd Vice-President	John Sprague, Ameliasburg.

Executive Committee :

D. Derbyshire.
J. T. Brill.
V. E. Fuller.
Prof. James W. Robertson.
James Davies.
John Hannah.

Board of Directors :

Division No. 1.—Thos. McDonald, Morrisburg.
Division No. 2.—Ira Morgan, Metcalfe.
Division No. 3.—James Millar, Spencerville.
Division No. 4.—W. T. Crandall, Picton.
Division No. 5.—Robt. Philp, Cadmus.
Division No. 6.—Jas. Davies, Toronto.
Division No. 7.—J. T. Brill, Guelph.
Division No. 8.—V. E. Fuller, Hamilton.
Division No. 9.—J. S. Pearce, London.
Division No. 10.—Aaron Winger, Ayton.
Division No. 11.—Erastus Miller, Parkhill.
Division No. 12.—Archibald Wark, Wanstead.
Division No. 13.—John Zinkann, Wellesley.

MEMBERS

OF THE

ONTARIO CREAMERIES ASSOCIATION.

NAME.	POST OFFICE.	NAME.	POST OFFICE.
Abrams & McLennan	Camerontown.	Hazard, E. B	Picton.
Allen, J. H	Picton.	Kemp, A. E	Toronto.
Allison, W. H. R	Picton.	McAuley, D	Picton.
Baillie, J. E	Toronto.	McFarlane, Thomas	Ottawa.
Boulter, W	Picton.	McHardy, J	Guelph.
Boyd, Alfred	Toronto.	McInnes, J. H	Ottawa.
Brill, A. R.	Teeswater.	McLean, Jno	Picton.
Brill, G. J.	Walkerton.	McMullen, H. C	Picton.
Brill, J. T	Guelph.	Massey, W. J	Belleville.
Brown, Horace	Athens.	Millar, James	Spencerville.
Brubacher, W. H	St. Jacobs.	Miller, F. T.	Picton.
Cameron, Thomas	Farquhar.	Morgan, Ira	Metcalfe.
Cheesman, James	Boston, Mass.	National Bucket Co	Parkdale.
Clark, J. K	Chesley.	Noxon, S. C	Northport.
Conger, J	Picton.	Pearce, J. S	London.
Cooper, C. R.	Toronto.	Ramsay, R. H	Toronto.
Craig, J. A	Hamilton.	Ritchie, Alex	Inverary.
Crandall, W. T	Picton.	Ross, Jas. F	Seaforth.
Davies, James	Toronto.	*Rural Canadian*	Toronto.
Delaporte, A. V	Toronto.	Ryan, Wm	Toronto.
Derbyshire, D	Brockville.	Smith Bros	Churchville.
Dominion Dairy Supply Co	Quebec, Que.	Sprague, John	Ameliasburg.
Duff, Wm	Inverary.	Sprague, John A	Demorestville.
Eureka Salt Co. (Box 3241)	New York, N. Y.	Sprague, M	Ameliasburgh.
Fee, Lucas	Toronto.	Struthers, James	Owen Sound.
Flavelle, D. G	Toronto.	Swan, Robert	Toronto.
Gould, John	Aurora, Ohio.	Talcott, E. W.	Bloomfield.
Graham, Peter	Warwick.	White, S. J	Belleville.
Graham, R. J	Belleville.	Williams, H. M	Picton.
Hannah, John	Seaforth.	Winger, Aaron	Ayton.
Hawley, John	Toronto.		

FOURTH ANNUAL CONVENTION

OF THE

ONTARIO CREAMERIES ASSOCIATION.

The fourth annual meeting of the Creameries Association was held on Thursday and Friday, the 10th and 11th January, 1889, in the town of Picton. The convention was called to order at 2 p.m. on the 10th January, in the County Council Chamber. The audience in attendance was so large that the accommodation afforded in that room was found insufficient, and, by the courtesy of the mayor, the town hall was placed at the disposal of the Association, and in it the subsequent meetings were held. Every possible arrangement had been made for the comfort and convenience of the visiting members and the assembled audience.

PRESIDENT'S ADDRESS.

The President began his address with a compliment to the town of Picton and continued:

I am glad we have among us such live workers and able speakers in behalf of the good cause as Prof. Robertson, John Gould of Ohio, James Cheesman and Dr. McFarlane, and that there should be present to listen to those gentlemen so large and representative a gathering as I see before me. I am well satisfied with the good work which has been done during the past year. Our inspectors, whose reports you will hear to-morrow, have done nobly; our Secretary, Mr. Cheesman, has done well, and we are greatly indebted to him for his zealous work throughout the year; and Prof. Robertson has greatly aided us in every new undertaking—in short, we have worked like one man. I believe we are going to have a great success in this convention, and that our experience will be, as on former occasions: that when our time is up we shall want another day to complete the work. I have to thank the officers and members for their hearty co-operation in all that I have undertaken, and I trust the close of the year we are now entering upon will see our creameries business placed upon a solid footing, which end will be accomplished by a continuance of the steady work and effort which have characterised the past season. I have to thank the mayor of this town and the local committee for their active efforts. I am sure our meetings will not only give to the farmers of Prince Edward county a new impetus, but that we ourselves shall be stirred up to renewed effort. I will not detain you further at present, but have great pleasure in introducing to you Prof. Robertson, of the Agricultural College of Guelph.

THE CREAMERIES OF ONTARIO AS AN ECONOMIC FACTOR IN OUR NATIONAL LIFE.

In introducing this subject Prof. ROBERTSON said: I am very much pleased to meet the Creameries Association of the Province of Ontario in the town of Picton, the centre of a splendid agricultural section, which is well fitted to support creameries, and better adapted for the production of butter than the production of grain. I do not speak from mere hearsay in regard to this matter; for during the summer I had the pleasure of driving over part of this country, and inspecting for myself the quality of your soil, the crops you grow and the condition of your pastures. I am glad to meet so many old friends of creamery enterprise and effort; and, with you, I expect to enjoy the addresses which will here be delivered by those who have devoted much time and thought to the several subjects on which they will treat. I am especially glad to meet here to-day my esteemed friend Gould from the other side of the line. We always welcome Americans to our Dominion, because we have learned to appreciate their worth; which is as much a compliment to our own good sense as to their value to us. We have tariff duties on most of the articles that pass between us and our American brethren, but there is no tariff on information, and if we can give our esteemed friend any of that commodity he can take it back with him and pay no duty on it; if we can have reciprocity in nothing else we can at all events have it in information on agriculture. I propose this afternoon to speak for a short time upon "The Creameries of Ontario as an Economic Factor in our National Life."

Now, as a nation progresses in skilful agricultural methods, so it advances in all the attainments of civilization. You hear farmers called clodhoppers, hayseeds and nobodies, but if you will gauge the progress of farmers in most nations you have gauged the progress of that nation itself in all that appertains to civilization. As the farm resources are developed, and as farmers are prosperous, so will the whole nation be strong and wealthy. The progress of agricultural operations, and their success, run parallel with all other kinds of prosperity and desirable achievement in our nation. A nation, or a tribe, whose methods of producing food are very simple and rude, are a people almost semi-barbarous in their nature. You cannot cite me a single instance of a race or tribe employing the cruder methods of agriculture who are not merely emerging from a state of barbarism and its accompanying conditions. A race content to live upon purely vegetable products, roots, fruits and grain, is always a race having little influence in the world. Some have said that a people who eat beef become bullish, and that is why the English are called John Bulls; also, that people who eat pork become hoggish, for which reason Uncle Sam's people are called hoggish—but, of course, there are some noble exceptions. Following up that line of thought, people who live exclusively on vegetables must eventually become "small potatoes," in every sense of the word. Now, if simple tillage of the soil to bring forth vegetable products will not suffice, then we have to provide for other foods, richer in their quality and more invigorating in their properties; because, after all, the intellectual, social and financial power of a community or nation can be gauged by what appears on the breakfast-tables of its people. The reflex of a people on their breakfast tables is a strange and interesting study, and one which I have often enjoyed both at home and abroad. We need to have good butter there, for if we don't, all the rest is spoiled; and the people who eat the most butter are the best brain workers in creation. Butter is the brain-food of the world. We have been told that fish is brain-food, but I don't think so. A man once wrote to a distinguished humorist, asking if fish was brain-food, and if it were, how much ought he (the correspondent) to take per meal. The reply was that fish was popularly believed to be brain-producing food, and if it were, judging from the question he asked, it would be advisable for the correspondent to eat a whale entire every day. (Laughter.) As agriculture becomes an occupation requiring the aid of new agencies, and the adoption and application of new methods, we look around us to discover what these new agencies are, and to observe the character of the methods to be applied. As men rise in the scale of civilization, they appropriate to themselves and make use of the powers of what are known as domestic animals. Man in a perfectly savage state depends upon his own legs and feet as a means of getting from place to place, but when he becomes a little more civilized he relies on the horse as a means of transportation, and for doing work. As he ascends still higher in the scale he brings into his service the horse, the cow, the pig and the sheep, to furnish him with transportation from place to place, to peform labor and to provide him with food.

I now come to speak more in detail of creameries. A man who desires to appropriate these animals to his service, and to obtain from their powers the best possible results in all respects, can only hope to do so by exercising and applying superior judgment ; and this he can best accomplish by developing to the greatest extent the powers with which nature has endowed the animals he wishes to use. The dairy cow is essentially an artificial product of human judgment. The common cow is a creature that comes to us as do other animals—a product of the operation of nature's laws—but those qualities which make her valuable as a dairy cow are a development of her original inherent functions, and the result of human intelligence and judgment, founded upon accurate observation and careful study. Then, after man has developed to its utmost the power or capacity of an animal, he must continue to exercise skill and judgment in order to preserve that power and prevent its deterioration. A cow has naturally the power of producing less than two thousand pounds of milk per year, but man, by an enlightened and intelligent exercise of judgment, can so develop that power as to increase the yield of milk to eight or even ten thousand pounds per year. If that augmented capacity is not carefully preserved the cow will lose that acquired power, and, if altogether neglected, will eventually lapse into the original state. There are now in this province cows by the score, nay, hundreds, which would produce annually, if their inherent powers were rightly treated and sustained, eight thousand pounds of milk. It is not that we want so many different breeds of cows in our dairies to make them successful and profitable, but we want a great many different sorts of men, with directive capacity, to enable the cows to apply their powers to advantage. I know I am talking principles largely to-day, and you may think me abstruse and dull, but if a man will develop, increase and protect the productive powers of the cows he owns, he has taken one long step in advance towards making his farm more profitable and himself a more intelligent man. The next part that requires his attention is the planting and cultivation of crops adapted to the support of these animals, and just here, parenthetically, I want to say to you that the creameries upon which I am proposing to speak are in a large measure unsatisfactory and unprofitable because the men who attempt to support them neglect these two points—the proper development and care of their cows and the due preparation and growth of crops suitable for their support. I shall speak to you some time of the best kind of crops to grow, but at the present time I merely say that the growth of suitable and adaptable crops is one of the most important factors in the extension of the creamery business. The largest returns, with the smallest expenditure of labor, money and fertility, are only to be obtained from the best animals, fed on the best food, by the best men. That is a rather short way of expressing it, but when rightly applied it covers the whole secret of successful dairy husbandry. These two essential preparations, of the cow and the plant, of which I have spoken, open the way for the production of milk, and the creamery provides for the manufacture of milk into one of the most wholesome articles of food, which everyone wants and likes and which can be sent from the farm with the largest profit to the man selling it. From the milk yielded by the cows of this province we make in large quantities cheese, a product which is a concentrated and very nourishing food—much more so than butter is. I want just here to show the weakness of our creamery system. Of the milk yielded by the cows of this province nearly as much is converted into butter as into cheese ; there is not much difference. Our cheese has won for Canada the reputation of being one of the finest cheese producing countries in the world, while our butter has earned for us the unenviable notoriety of sending to England the strongest butter received there from any part of the world. There must be something wrong, you see, in the way we do things, when we are not able to earn as good a reputation for producing butter as we have established in connection with our exports of cheese. Let me cite to you the first mistake we have made in regard to our butter making operations. There was a time when we had no reputation as a cheese-making people; when the cheese was made at home in the dairies of the farmers. Now, of all the cheese made in this province 99⅘ per cent. is made in cheese factories, and only one-fifth of one per cent. in home dairies. You have there, in my opinion, in that short set of figures, the real reason why our cheese-making business has attained such a high reputation, while on the other hand our butter-making operations have secured for us, in market reputation, only that which too frequently characterises the product itself—a bad odor. Of all the butter made in the province from the milk production of nearly as many cows as we used in cheese-making operations, less than three per cent. is made in creameries. Less than three per cent. in one case as against 99⅘ per cent. in the other. If we had this position in regard to butter-making reversed, and only three per cent. of our butter were made at the farm dairies, we would get even higher figures for our total product than those mentioned by the President in his opening remarks.

Now, let me examine still further this making of 97 per cent. of our butter product in the farm dairies—mostly small. Is that an economical and profitable way of producing butter? To a man who gives the matter any serious consideration it at once becomes evident that it is not. The total make of butter in the farm dairies of the province is estimated at over 30,000,000 lb. annually. I have taken some pains to discover what amount of labor is employed in making that quantity of butter, by finding out how long it takes to make ten pounds of butter in the home dairy, and I find it takes on the average just six times as much labor to make a pound of butter in a small dairy as it required to make a pound in a creamery. The amount of labor required to make 30,000,000 pounds of butter in home dairies is equal to 750,000 single days labor, whereas if made in creameries it would take less than 130,000 single days labor. You would have 620,000 days of ten hours each of labor to spare in the homes of Ontario by having this butter made in creameries. Now, in this province we should be proud, above all things, of the virtue, industry, intelligence and beauty of our women; and yet our farmers are crushing the spirit out of their wives and daughters by letting them milk cows, set pans, churn butter, and all the work incidental to that process. This seems to be a small factor in our national prosperity, but it is really a very important one, that the women on our farms should have more leisure for true womanly work, and spend less of their time in producing butter which sells for twelve to fourteen cents a pound, the average price of the summer dairy butter of this province. I haven't a word to say against the butter these ladies make, but I say it is wasting labor having a large number of women doing that which one man could do. Then, again, there is more than six times as much capital invested in dairy utensils in private dairies as would furnish creameries with capacity to do the same work. Do you suppose that any manufacturer could run for any length of time in competition with another manufacturer producing the same class of goods if he actually had to pay six times as much for his labor, and to invest six times as much capital in his machinery and plant as the other did? He would be played out of business in two weeks if he kept his books well, and inside of a short period whether he kept books or not. Yet that is exactly what butter-makers have been doing, and they wonder why butter-making does not pay. It can be made to pay, but we must make our methods economical. It is my intention at some time during these meetings to speak a few words in regard to the possibility of making our cows give more milk, but even taking their yield at the rate of last year the difference between the amount of butter produced from a given quantity of milk when handled in creameries, and the product of the same quantity of milk when handled in private dairies, would, if applied to the total milk product of the province, show a loss of a million and a half pounds of butter by reason of the existing state of affairs. To show you how I arrive at that conclusion, I may say that I made investigations to ascertain the amount of butter fat left in the buttermilk after being churned in the way that is all too common, and after being handled in the proper manner at creameries. By the creamery process—the cream being thoroughly ripened by souring—I found buttermilk so poor that it contained less than three per cent. of the total fat of the milk, while buttermilk produced by the too common method of churning practiced in home dairies—sometimes sweet, sometimes sour, sometimes these two qualities of cream mixed just before churning—contained upwards of twenty-three per cent. of the total fat of the milk—a difference of twenty per cent. of the total butter fat. I put the loss accruing from imperfect knowledge and unsuitable practice in farm dairies at five per cent., which is an inside estimate, and that gives a million and a half pounds of butter run off and fed to pigs, or wasted in some other way; a million and a half pounds of butter that should have been sold at from 20c. to 25c. per pound being annually fed to animals which could have been better fed with a pound and a half of cottonseed meal instead of a pound of butter.

A Member.—Do you mean to say that a pound and a half of cottonseed meal would have the same value?

Prof. Robertson.—I would rather have a pound and a-half of cottonseed meal for an animal than the equivalent of a pound of butter as contained in the buttermilk I have been speaking of; it would have equal power to produce fat, nearly as much to produce heat, and a great deal more to produce flesh.

Now, that is one serious loss. The other is that we have not recieved from the butter we have made the return per pound that we would have received had the butter been made in creameries. Creamery butter, at the very lowest estimate, will bring on the average four cents per pound more than dairy butter made and marketed at the same time. Put four cents a pound on the total output of butter last year from farm dairies and you will have from that source a loss of $1,200,000; that is to say, the dairymen of this province would have realised that much more had all their butter been made in creameries. These two items make $2,700,000 less value in the butter because the farmers of this province will persist in putting six times too much work into it, and in using six times too much machinery to work it, and by not doing that work as it ought to be done. There is a still greater loss that we have sustained. You will think, perhaps, that I am piling it on rather thick, but I am well within the mark. We have lost by not meeting the market demand for our butter. There is always in Toronto and the larger cities of the province an unsatisfied demand for butter at 25c. per pound; sometimes 35c. We have lost because the butter made has not been sufficiently fine, and has thus lowered the price in the market for all butter, both creamery and dairy makes. In this way men have been deterred from keeping cows, and have turned their attention to grain growing, when their fields are really too poor to grow it. The whole thing depends upon this creating for what we have to sell a demand at profitable prices; in other words, getting a good market. We have the people to make that market if we can only supply the kind of butter they need and want. If you will just notice for a moment the effect of quality upon the market you will see what I mean. Prices to-day in the markets all over the province range from 14c. to 23c. In some places the range is from 15c. to 35c., or even 16c. to 40c. for the very finest quality, but I put it this afternoon from 14c. to 23c. Now, no man by any manipulation or writing to commission men or grocers can force that market up or crowd it down; but any man can, by his own efforts, raise himself from a 14c. man to a 23c. man in one day—for it is the quality that governs the price. There is always a surplus of 14c. butter. I never saw the market bare of butter of that class; but there is almost always a scarcity of 23c. and 30c. butter. Therefore, if you make butter of that quality you not only realise for it a higher price but you create a demand for it, because the man who gets fine butter will eat twice as much, and want butter three times every day. Then, the foreign market is almost always open for an unlimited quantity of fancy butter at a high price. England imports a good deal of cheese from us; we send her about one-third of all the cheese she gets from all foreign countries; but we send her only about one and a-half per cent. of the butter she imports from abroad. You see, we send her about thirty-three pounds of cheese in every hundred pounds she imports, and less than two pounds in every hundred pounds of butter she buys, and yet she buys two and a-half times as many dollars worth of butter abroad as she does of cheese. Now, if we have been able to capture the cheese market, I don't see any reason why we should not secure a large share of the butter market, which is much more extensive, and gain a larger income to ourselves. I think England is patriotic and motherly enough in regard to her colonies to be just as anxious to send her money this way for butter as to send it to Denmark, Sweden, Norway or Holland, or even to our friend Uncle Sam, as long as she gets fair value for it. We should bestir ourselves, and be on the look out for some of this good English gold by sending butter there; it being one of the things we can best afford to export, because we do not impoverish our farms by sending it away. While I have been recommending improvement in our methods, and the adoption of creameries instead of home dairying; and suggesting England as an insatiable market for our butter, I do not think that ours is a country which can successfully go into producing butter in the summer time. I have been considering this question for ten years and endeavoring to see into it as far as possible, and it is my opinion that no nation can successfully contend against the natural conditions which adapt it for a certain line of life or production. The natural conditions of Canada are not of such a character as to adapt it for the profitable production of butter in the summer-time. We want to work in harmony with our natural conditions, not to contend against them. We can never successfully compete with Sweden, Denmark or Ireland in producing butter in the summer time for the English market. All the butter we need to produce in summer time is for our own home trade. If we produce the fancy quality I have been speaking of, our home market will be doubled in its extent, and if we can double that market it will be found that it is just as large a market as it will pay us to supply; and I, for one, have no desire to foster the making of butter in summer time for export; I don't think it will pay us. Our country, I think, is adapted for the production of cheese in summer time; it is essentially a country for the production of cheese during those months, and I think it is admirably adapted for the growth of calves and the manufacture of butter during the winter months. If we will make our cows come in at the proper time, and make butter from their milk, the most profitable part of our dairying season will be from October until April, and not, as now, the best from April until October. You would find this plan to have many advantages, some of which I will now try to enumerate, over the system at present practised in this province. First, you will have a longer working season. No man can afford to go idle for six months in the year. I want to make that plain. No man can do without earning anything for six months. When I was making cheese, not so many years ago, I had work only six months in the year, and earned from $100 to $120 a month wages. I had to live on that in the winter. I did some things during the winter, but not much in the way of earning. Well, then, I was working in the summer merely that I might consume in the winter. A man should have employment to keep him occupied the whole twelve months of the year, and if a man finds it necessary that he should have employment the whole year, he should also give his dairy and his cows employment twelve months of the year, that they also may produce. Thus he will give himself employment for a long season in a manner which will be highly remunerative to him; that is the first advantage I claim for making cows give an abundance of milk in winter time, and making butter and feeding and rearing stock at that time of the year. The second advantage is that by making their cows calve in October, the farmers of this province will have better stock than by having them calve in April. An April calf is expensive to rear, and a June calf is simply a burden and expense upon the man who owns it; it is very hard to rear, and hard to winter the first year. I would not own a calf that did not thrive the first winter; I would make a present of it to some man I didn't like, and try to get him to keep it afterwards. If a man will rear his calves, having them begin their lives in October, he will find it possible to spare the skim milk they need, and he will find that they will thrive upon that with some added meal, and at four months begin to eat fodder, roots and meal, and when the fresh grass comes in May or June they will be anxious to get out and see how well they can do for themselves. The next year they will just grow two pounds a day for one pound of the calf that came in April. I would rather have a two-year-old that came in in October than a three-year-old that came in in June. Now, I think we should grow steers. I think no dairyman understands his business who does not make money from beef stock raising. A dairyman keeps cows, first to give milk, then to give stock, and then to make beef—milk, stock and beef; and a man who has them in that order will make more money from them all three than if he had begun the other way about it. Another advantage is that the winter is the period when high prices rule for the product of cows, and butter will bring on the average one-half more per pound from October until

April than it will from April until October, and yet you could afford to sell a pound of butter for less between October and April than you could between April and October. That, then, is the time when you ought to be in the business. I will show you how you can do it. The average price from October to April is one-half more, and you can afford to sell for less. If a man makes butter from his milk in summer, it is about the only valuable product he derives from the cow. The skim milk becomes partially sour, and he feeds it to the pigs, which grunt, but do not grow, or to a calf that grows hair—and little else. His butter is about the only valuable product he derives from the cow; the skim milk goes for little, as a rule, not because it is worth nothing, but because a man who follows summer dairying doesn't know enough to make anything of it; which is not very complimentary to the man. But a man who carries on his dairying operations in winter, grows the best calves, and keeps the best pigs, in warm, dry, well ventilated quarters, will make nearly one-third as much from his skim milk as he will from his butter; and if he does that he can afford to sell butter cheaper in winter than in summer. That is, if he can feed his cow as cheap, and I think that before the afternoon is over you will have learned that he can do that. I have been feeding cows at 11c. per day, but if I had fed hay it would have cost 25c. Then, in addition to being the period of high prices and cheap production, it is the period for safe transportation. Butter can be sent to England during the winter without the risk which there always is in summer, of its being spoiled on the way. Another advantage is that the elements of fertility which exist in the plant food remain on the farm. When a man produces food he is only doing chores for nature, which does all the work except the chores. He is doing chores: putting little improvements and additions into the soil, and nature, operating upon that, brings up plant food for man. Now, if a man will sell all the conveniences nature has supplied, the little sacs into which the sun stores his energy for man's good, and will have the sun pouring down upon his land which has no little sacs to be filled, he will get no food. In butter there are hardly any of the elements of plant food sold off the farm at all, and, therefore, from the food of your cows you will have disposed of those things only which the soil does not require, and have left in the manure of your cows, your calves and your pigs nearly all the elements which existed in the original plant. The nitrogen, phosphoric acid and potash, three of the main constituents of plant food, are left almost intact to enrich the soil of the farm. Now, there is need of a great deal of enterprise in this matter. As a people we are too slow to believe in a good thing, and too slow in acting upon anything that we haven't seen some other man do a dozen times before. I do credit the Americans with being a wide-awake people, who, when they see a good thing, take hold of it with both hands, and when they see a better one let go of the first and lay hold of it, and so on. That is why they have made such marvellous progress in a hundred years; but we are too much given to hanging on to a thing because it is old. Our fathers kept cows that milked in the summer time, and we have been doing the same, and condemn anything new as a "new fangled notion," just because it is not something that has been practised from time immemorial. Now, this is not a new fangled notion. The people of Denmark, years ago, were a sad, discontented people against the government, against the wealthy, against everything, in fact, but themselves; a poor, unfortunate poverty-stricken people. The Agricultural Association of the Kingdom, and the Dairymen's Association formed afterwards, tried to stir up the farmers of that country to keep cows and make butter during the winter, and to grow the right kind of plant food for animals, and thus work out their own salvation. These men thought it was all moonshine, I am told, but by-and-bye some thought they would try, and the result was that when I was in Denmark two years ago I heard no talk of hard times, for the dairy business had been completely revolutionised. They now send butter to England when it is dear, and when the transportation is safe, and grow steers and send beef over there to such an extent that, although the Kingdom of Denmark is only about one-sixteenth the size of Ontario, they send about as much in value of fat cattle as we do from the whole Dominion of Canada. In the same manner, by keeping abreast of the times and adopting whatever is good, though new, we can increase our export of fat cattle, and at the same time receive larger returns from our dairy products. Just a word here. You think if you go into butter-making in winter you must have a cow that is worth nothing for making beef. Now, the Danes have superior butter-making cows, always lean when milking, but any man that owns a cow that is very fat when she is milking has a steer of the femine persuasion, that is all. More than half of the beef they send to England in the year is in the shape of fattened cows, and by the actual returns of the Board of Trade I find that these fattened cows bring only eleven shillings a head less than our magnificent steers. Now, that is the kind of cow we want, and treated in the same way.

We need in regard to this matter of creameries a little more co-operation than we have had in the past, a little more sympathy between the farmers and the creamery men. If the farmers would co-operate to support their creamery through the winter they would find these advantages, which I have merely glanced at, more than realised. There are one or two points on which I want to make myself clear. In all I have said I have not uttered a word antagonistic to cheese factories. I recognise the work they have done, and the value they are to this province. Now, I would like to make them even more valuable; I would like to see them made more valuable by being worked all the year round. Good returns are got from the summer work now, but if the equipment were changed during the winter months, which would not take a very great outlay, they might during that season of the year be operated as creameries, and you could have your butter made in the best and most approved way without incurring the expense of new buildings, and the returns from them would be greatly enhanced. The cost of a creamery, even if built entirely new, is not a very heavy expenditure. A creamery capable of handling the milk of at least five hundred cows can be built at a cost of $1,300. A cheese factory can be converted into a creamery at an expense of not more than $250. Every farmer has an interest in this subject; every man who wishes his country well has an interest in it, because as the farmers produce more food they have more to spare, and consequently more money to spend, and more for everything, which means more money for the merchant and better times for everyone. It just revolves itself into this; that the man who will study so that he may understand the cow and her requirements, the best methods of producing a large yield of milk, and the most advanced methods of converting that milk into the best butter and cheese, is a man who is doing everything in his power to advance his own interests as a dairyman, and through those interests the interests of the whole nation. I have therefore to say that the creameries of this province are one of the greatest factors in furthering our national growth, a factor which it should be our desire and object to preserve, develop and heartily support. (Applause.)

A MESSAGE OF CONGRATULATION.

On motion of the President, seconded by Mr. James Cheesman, it was resolved that the following message of congratulation be telegraphed to Governor Hoard, of Wisconsin:

"That the Ontario Creameries Association sends its warmest greetings to Governor Hoard, wishing him an enlarged sphere of usefulness in his new field, and a continuance of the dairy educational work of Wisconsin, in which he has taken so prominent a part."

The President.—I have now much pleasure in introducing to you Mr. Gould, of Aurora, Ohio, U.S., who will address you upon the subject of

ENSILAGE AS A FACTOR IN OUR DAIRYING OPERATIONS.

Mr. Gould.—The question I am to talk about is one very nearly akin to the subject upon which Prof. Robertson has been addressing you. Profit in farming is the result of a due study of economy. Set that right down in your mind. When we used to take the soil itself and exhaust its fertility, we had another kind of agriculture; but now we have to study to produce profits. Once upon a time we simply took money out of the ground without any regard to what we were doing, but now we have become economisers, and must make our profits by keeping better animals and doing something to feed them better and cheaper, so that we can make double profits for our labor; because that is all we get in the end. Whether it is done with the hands, as I do it, or as the Professor does it, with his brains, it is all labor. Now, this economy is a matter of judgment. His stock will not bring a man in money if he loses five times where he makes six times; if you shut your eyes before you pull the trigger you don't often bring down game.' You could do that once upon a time, but now it takes study, skill and judgment to bring down the thing you want, which, in this case, is money. I presume that, after the Kingdom of Heaven, this is the thing we all desire most. Economy is the greatest production procured with the smallest expenditure of labor and invested capital. The man who gets the most out of the least has now become a successful farmer; but he has to study in order to do that. That brings us around to a new idea of farming: You can't do it with the old system of farming; you must revolutionise the whole thing to do that. You have to make summer 365 days in the year. That is, you must cause summer conditions to prevail in winter, and when you make 365 days of summer the Professor's scheme becomes perfectly feasible, and one which you can carry out with profit to yourself; but as long as you feed cows at the stack and warm your barn-yard with them you are simply on the way to the poor-house. It don't pay to warm your barn-yard with the cow, and put electricity into her hair by standing her beside a wire fence when the thermometer is below zero. Now, I said you must make summer conditions prevail in winter, and the only way I know of doing that is by the use of the silo, and when I say silo, I am talking about something with which I am as familiar as I am with anything in the world. It revolutionised my farm, and put me in the way of lending money instead of borrowing, and you know a man who can go down into his pocket and lend a neighbor a little money once in a while is much happier than one who is running around wondering where he can borrow a dollar. I say that the silo is going to solve some of these problems in regard to farming. It is not, perhaps, a new thing, but in 1888 it is entirely different from what it was in 1882, when, in the States, silage was known by the synonym of cow saur-kraut. But then, it was the entering of the thin end of the wedge, and lent us some assistance, and showed us the way until we got pretty well through. Allow me to tell you how we made ensilage in 1882 as against ensilage in 1888, and then perhaps we shall get at this thing more handily. The first silo built in our neighborhood in 1882 was a massive stone structure, which cost nearly $2,000 to build. It was stone and concrete, dug into the ground, under the supposition that the ensilage would freeze, and calculated to hold 300 tons. The ensilage was grown by sowing corn broadcast, two bushels and a half per acre. The corn was of a kind that the more you feed a cow with it the hungrier she gets. But we have altered our plans from the ground up, and have been advancing in the study of corn, until now instead of sowing two and a half bushels to the acre broadcast we are using eight quarts of seed to the acre, sowed in drills, the rows three and a half feet apart, and a kernel every six inches. We make the cultivation as shallow as possible, so as to avoid disturbing any more roots than can be helped, and so keep the growth of the plant right up; that is what we have learned by five years of experience. We have also learned that the object and aim of the corn plant is to produce an ear of corn, and as soon as you deprive it of that function it has nothing else in this world to grow for, and hence does not seem to store up the extra supply of sugar and matter that goes to make an ear of corn. Our experiments show that if you will take a stalk of field corn, break off the ear, lay that on one side and take the food analysis of that against another little crude stalk taken out of a field of thickly planted corn, you shall find that the food values of the two are as 11½ to 42; more than three times as valuable. And then we have an ear of corn to put with the stalk, which makes it as 70 against 11. That is the way our ensilage is now entirely changed in character, and we have ensilage free from the strong odor which characterised that of 1882. Another thing we have found out about these silos is the cheapness with which they can be built. We have got now so that in Ohio we can build them for 50 cents per ton storage capacity. Last week, before I started from home, I contracted to have built in my new barn a silo to hold 120 tons for $54, and the man finding everything. That, you see, is even less than 50 cents a ton; so that we have now got the silo down from $8 per ton storage capacity to 50 cents a ton. There is where the economy comes in; so that any man now who has got a barn can have a silo if he doesn't wish to spend money building it outside; and you can get storage capacity for $1 to $1.25 per ton for a finished complete building on the outside. With these cheap silos we can get better results than with the costly stone silos. The stone is so great a conductor of heat and cold that we didn't get as perfect conditions for keeping the ensilage. The stone takes out the heat, and when you don't want the cold in there it becomes just a perfect conductor for the cold to enter, but with our two thicknesses of wood, with tar paper, we have an almost perfect non-conductor of heat and cold; so that with our cheap silos we have a perfect protection from the cold, even when outside. When we set out to build our silo we do not cover the floor, but just simply set it on the ground. We have now two thicknesses of lumber with tarred paper between. To make this water proof, we take common coal tar, common gas tar, or asphalt, whichever may be the handiest, melted in a kettle, daub it over it and saturate these boards. Now we have a water proof, moisture proof silo, because the cracks will become perfectly filled with the pitch, and the whole thing will be as strong as if you had used matched lumber. The door business bothered us a long time; it was usual to get over into the silo and to throw the ensilage out. But by chance some Yankee discovered a very easy way to make a silo door. Commencing about 2 feet 6 inches or 3 feet from the top, select two studs, and saw right down on the inside of the studs till you come very near the bottom, within a couple of feet. Save all these pieces of board as they come out, so that you know where they belong. Then take two cleats and nail them right up and down on the sides of the studs so as to make a door. Then tack the boards on the cleats very lightly, so they can be handily taken out. Take two strips of tarred paper and lay right over that door from top to bottom.

As you fill the ensilage it lies right firm against this paper, and makes an air-proof door. It does not take two minutes to set the door in its place and make it air-tight, but that solves the whole business. When we are ready to take out ensilage, we take out one board at a time, from the top down. Well, now, we have saved the expense of a great silo, and got a cheap one; we have got it down so fine that any man can have a good practical silo for fifty dollars, instead of paying $2,400 for it, as my neighbor did in 1882; and thus it is brought within the capacity of every man. I have sacrificed a big bay in my own barn to my silo, but I find that I can put from six to eight times as much in the silo as I can dry in the bay. I can afford to do that, and still have room enough for clover and other things which come in rotation on every one's farm. While the silo is a good thing in its way, it is not a substitute for everything else. Keep your rotation up, and use the ensilage as a new agent, and if you keep account you will find yourself doing twice as well as you did before. There are a thousand and one things that might be said about this silo question, but it is facts and results you want to get I presume. The first year I filled my silo, being inexperienced in the matter, and hiring too much, it cost me somewhere about two dollars a ton to raise and put ensilage into the silo. I raised it myself this year, and my wife boarded me, so the cost of raising it was very small—but, to be fair with my crop, I charged it three dollars an acre, rent and interest, with one dollar a day for all I did—if you saw the day's work you would say that was pretty good wages, and I find that my crop cost me $8 per acre, ready to put into the silo. We have changed our method now of filling our silos. We have used every invention that we could hear of, but have at last come back to about the way we started, only we economize our labor much more than we did formerly; we have gone back to the wagon we originally used; put the hind wheels forward to put the pitch of the wagon up hill, and then, with a plank in the rear we use that for transporting our fodder. We have tried all things, but have got back to that. We cut with a reaper several years, but when you get corn 12 or 15, and sometimes even 17 feet high, you want a pretty long extensive rack on the rear of the reaper, or you will drag the corn along the ground; so this year we substituted wholly hand cutting, and had men hired to cut and load the wagons. When the wagons went up at night with the last load the men staid and cut some corn so as to have it ready for the next morning. The men were hired with the understanding that they were to do a day's work in the field, and were at it from sunrise, and we had no delay or difficulty in getting plenty of corn on the pile and ready to cut with the same force of men we used to have when we used a reaper, and we made a big gain on that point. Then we reduced the number of our teams. The first time I filled a silo I had six teams, but this time we put in 450 tons, and only had three teams at any one time. In filling the silo we now use a carrier, by which the labor of another man is saved, the carrier being long enough to drop the corn into the middle of the pit; and instead of having a man in the silo treading down the ensilage, it is the business of the man who runs the engine to leave it once in a while and go and level down the ensilage and throw it up against the wall. He knows that is his business, and attends to it, and there we save the labor of two men, while our ensilage is much better without treading in. Our economy this year carried us to the point of five men, all told, and three teams, with which force we put in 400 tons and over of ensilage, and I think we did it as well or better than when we had ten men and six teams running. We got it down to this, that a load, as much as a team could draw, was cut in the field, drawn and put into the silo for 27 cents. Every load had a ton on it. The men said that was too low an estimate, but I called it a ton to be fair with the crop. We had 27 loads to the acre, with one ton on each load.

Now comes the result of the feeding. The principles of which the Professor has been talking I put into practice in my farming. I have changed winter into summer, as far as my dairy is concerned, and my cows know no winter. In my farm, tight and proof against the coldest weather, day in and day out, my cows stand tied with chains, comfortably bedded, and fed on ensilage, and I get summer results from them at a time when I can realise more than twice as much from their product as I could in summer. In winter I sell my milk at the door for $1.40 per hundred pounds as against 65 cents which is the price paid for it during summer months. I think I hear some of you asking "What does it cost you to feed your cows?" The ensilage cost me $8 per acre in my own labor, and I charged at the rate of 27 cents per load put into the silo. It cost me all told $15.29 per acre. I feed each cow 55 lbs. of ensilage, which cost me one cent and a half as near as I can figure out; one pound of clover hay costing one cent, and five cents worth of bran per day—the big cows a little more and the smaller ones a little less, but the average is five pounds, which cost 5 cents. That makes a total of 7½ cents per day. On this ration each cow yields me from 18 to 38 lbs of milk, or an average for the entire dairy of 24 lbs. of milk per cow per day, and I sell that milk at the factory for $1.40 per hundred pounds, which makes about 33½ cents per cow per day. Take 7½ cents out of that, and each cow turns me in about 26 cets net for my labor per day. Some one may stop me and say "How do you know this is the result of the ensilage, might not you have had the same results with something else?" Now, before we opened our silo we put our cows to the test. Knowing what every cow in the barn does, I was very much surprised to find that the cow that gave 38 pounds of milk was the best butter cow I had in the barn, and the cow that gave 18 pounds the next best cow, while a cow that gave 30 pounds scarcely showed a trace of oil on the milk, but gave genuine skim milk, while the milk of the whole dairy showed about 4⅝ per cent. of fat. Well when I began to feed ensilage I had a basis to work from. Part of the cows we fed just as they had been fed hitherto; part we put on one feed of ensilage and one of dry fodder; one batch on cut corn stalks, all they would eat; and two average cows, the ones that gave 18 and 30 pounds of milk, were put on ensilage exclusively. To my great surprise the cows that ate cut corn stalks after four days would eat within four pounds as much dried corn stalks as the two cows that ate ensilage exclusively. The cows that ate dry fodder and the cut corn stalks with that remained right in the same notch where they had been; I did not succeed in raising their milk one ounce. The cows I fed half on ensilage and half dry fodder showed a gain of about two per cent. in milk. Those I put on the ensilage exclusively raised the quantity of milk 20 per cent., and raised the fat 10 per cent. They are now on the third week, and they are holding right up to that gain. After I had continued this test long enough I put the whole dairy on ensilage and they showed a great gain, but having a lot of stuff, corn stalks and clover hay, that I wanted to get rid of, I put them back, and they dropped to where they had been, but maintained a good satisfactory flow of milk. I don't guess at these things ; the scales tell me everything, and every pound of milk that goes out of my barn goes over the scales. Now I have the same dairy I had last summer when I only got on the average 65 cents per hundred lbs. for milk, while this winter the price is $1.40, or more than twice as much. Now, why is it cheaper to make milk in winter? Just because I have nothing to do in the winter only live on what I made in the summer (and you shall say whether we make as much in the summer as we ought to). With me it was Hobson's choice. I had to do something or get out ; so I chose winter dairying with the most advanced ideas. The cows stand in the barn 24 hours and 5 minutes per day. (Laughter.) And they don't go out along the barn and get the dandruff washed out of their hair by such rains as that we had yesterday, but they are made just as comfortable as they can be made in the barn, and their sole business is to make milk. Now, someone will say that 24 pounds is pretty small average for my dairy, but on the 26th of November I had not seen one of my cows. I went out and bought these cows from Smith, Jones and Robinson and brought them home, and the result is that I have a dairy picked out of these weeds, giving me 24 lbs of milk per cow per day.

A Member.—Any particular breed?

Mr. Gould.—They show shorthorn pretty strongly ; four of them, I suppose, are thoroughbreds if the truth were known, but they are no better than some that are not thoroughbreds. It is what the cow does that pays me, not what her ancestors did.

A Member.—How much water did you give them?

Mr. Gould.—When feeding dry fodder from five to eight pails per day ; several cows would drink 140 lbs. of water per cow per day. The average is now about three to three and a half pails, when I have them watered in the stalls and fed on ensilage. When a cow is called upon to warm 140 pounds of water from 32° to 98°, it is going to take a good deal of feed to do it. I have put in a tank to warm water. If a cow stands in the barn and drinks water at 48°, at the tank while she is in the barn, I cannot say that the warm water has any influence on the milk or butter, but turn them out and let them drink cold water and it makes a good deal of difference.

A Member.—Has your ensilage any smell?

Mr. Gould.—All ensilage in the curing process will develop a little carbonic acid gas, but not enough to go through the silo into the barn.

A Member.—What length do you cut your ensilage?

Mr. Gould.—I will tell you the whole story ; we will get at it so we shall all understand it. This year we changed our method of filling silos. To get sweet ensilage we have always filled the first week in September, but I have become convinced that we were making a mistake, for there is food value to be secured by letting it stand three weeks longer. This last year I was bound to go to the Columbus centennial, and a neighbor of mine and I shook hands on it and said we would go, and when we got home, frost or no frost, we would fill our silos. We only got home on the 28th of September, and in the meantime the corn had become very mature ; so we were pretty close to the frost line when we set up our ensilage cutters and went at it. This year we filled continuously. We did very little treading, and instead of keeping a man in the pit we just let the carrier deliver it in the centre of the pit, and when it was pretty well heaped up the engineer would leave the engine and go down and scatter it from the centre and throw it to the sides by the four walls. About once in two hours he would spend fifteen minutes in the silo, and in that way we did very little treading but let it do its own settling. We had always before this trod it down and then put on tar paper, stones, planking and some other things, and sometimes a load or two of cordwood. This year, beyond throwing on a foot of loose straw, we did not put any cover on the silo. We threw on a few loose boards to hold the straw down, and took an old spade and went around the outside and tucked the straw in against the wall, and pushed the plank against that, and left it that way for six weeks. We have never had such good success before with covers, for our ensilage was sweet and unmoulded right up to the straw. One of the neighbors went still further and on one silo did not put any cover. About four inches on the top spoiled, but up to that it was just as good as any, and he told me he had put his last cover on a silo. Well, this year we have the sweetest ensilage we have ever had. Now, ensilage is beginning to get encouragement, and we look for a cent a gallon more for our milk next winter than the other fellows get, because our milk is better than theirs. We had two or three acres of corn more than we could get into the silo this year, and that was cut up. It cost me $6 per acre to cut that and put it in the shock, and only $7.27 per acre for that which was cut and put in the silo. I counted the shocks on the field, and then I husked out three of them and got five bushels of corn, so I know there was more than 100 bushels of ears of corn went into the silo from each acre. The other day we had fresh corn on the table for our own eating of these ears taken from the silo, and no one would have known but that they were freshly plucked from the stalk and brought in from the field.

Mr. Cheesman.—When you cut down the cornstalks in the field, how long were they allowed to lie before carting to the silo?

Mr. Gould.—As a rule every last stalk cut at noon was in the silo before we went to dinner; we kept right up with the cutters, and left none out over night, only a little cut after the wagon stopped. They would go back to the field after supper and cut six or eight loads to start us in the morning.

A Member.—What color did your ensilage take on?

Mr. Gould.—If you saw it you would hardly know it had been in the silo twenty-four hours; it has changed a little, from a deep green to a straw green.

A Member.—What length did you cut it?

Mr. Gould.—$\frac{3}{8}$ to $\frac{5}{8}$ of an inch.

The President.—Professor Roberts, of Cornell University, stated yesterday that he found by experience that cutting corn three inches—three to four inches—was best; that the cow had something to chew, the pieces did not stand on end and cut her gums the same as if it were cut the other way.

Mr. Gould.—My cows have not shown any symptoms of sore gums; I have cut it three inches long, but I like it shorter.

Mr. Brown.—Would it be your opinion that anything could be mixed with this corn that would help the ensilage; straw or anything of that kind?

Mr. Gould.—We have abandoned mixing entirely. The straw was very dry and there is a certain amount of air imprisoned with it, and you get mould owing to it. If you want to feed straw it should be cut up independently and fed as a separate ration. One neighbor of mine tried straw, and it spoiled his whole ensilage, so that he did not get one dollar out of the silo. Leave the straw on the mow or in the stack, and when you want to feed it cut it independently.

A Member.—Could you mix green straw?

Mr. Gould.—The best thing we have found to do mixing with is second growth clover.

A Member.—Do you think frost would be injurious?

Mr. Gould.—No, sir. If I should have a field of corn struck with frost, and had no silo, I should get a carpenter and let him build a silo in twenty-four hours, and put that frosted corn in, whether it was ripe or not.

A Member.—What season did you sow it in?

Mr. Gould.—The 12th of May. I want to say just a word about the saving of labour in putting in ensilage corn. Do your cultivating of your corn largely before you plant it, that is, take extra pains with your field; after you have dragged it and think it is dragged enough, spend one more day on it. Then plant it—don't put the roller on—with a one-horse planter, with projecting corners. Don't get a planter that rakes up dirt to cover the seed, but one that has a shoe to put the corn in, with a following wheel behind; so that when the corn is planted it has a slight depression—about an inch. Two days after you have planted it, run over it with a light harrow. Then you have rubbed out where your planter went, and the third or fourth day go over with your harrow, and keep that up until the corn is eight or ten inches high. Then go through it with your double cultivator, going just as shallow as you can make it go.

Mr. MASSEY.—I was induced by representations I had seen to build a silo last season. Owing to the unfortunate drouth, my corn came up very low, and I waited as long as I possibly could for it to get big before cutting. Before I cut, however, the frost was on, and I went to work and cut and filled my silo, which was built in three separate sections. I filled a section each day. My neighbors said my growth of corn would turn out to be manure. Well, the Sunday before Christmas I opened it and commenced feeding, and the result of my first week's feeding, with the same number of cows, was that I realised one hundred and twenty-five quarts more milk that week than the week before.

Mr. GOULD.—My neighbor filled his silo on the 16th of October, when the frost came, but he kept right on filling, and when he changed from the frosted fodder to that which was not frosted, there was no change whatever in the milk.

Mr. GRAHAM.—You think the frost does not hurt the corn?

Mr. GOULD.—Well, I didn't say that.

Mr. CHEESMAN.—What was that milk used for?

Mr. GOULD.—For making fine creamery butter.

Mr. MASSEY.—My milk is sold in Belleville. I get six cents a quart for it. They were telling all around that we would have sour milk; that the milk would smell of the ensilage; but it is sweet and equal to any milk we have ever had.

Mr. BROWN.—I do not find that ensilage gives any better results than good, well-cured fodder corn. I think it will go further, but I don't think the results are any better.

Mr. MILLER.—My experience is quite opposed to that of this gentleman. I made a small silo, 28 x 14, last summer, and filled it. I fed my cows on the ensilage and on oats and peas cut on the green side. I fed about a bushel of ensilage a day to each cow. Sometimes they would drop off, and just so sure at the next milking the milk would go down, but in three or four days with the ensilage they could be brought right up again.

Mr. GOULD.—The bushel I feed is a bushel of loose ensilage raked up from the top of the ensilage pit, which only represents less than half a cubic foot of the ensilage; a bushel weighs fifty-five pounds, but I am talking about loose ensilage raked up.

Mr. CHEESMAN.—I want to just call your attention to a few facts in connection with Mr. Gould's remarks on this subject. He has told us that he is realising at the creamery $1.40 per 100 lbs. for his milk, which is exactly 14 cents per imperial gallon. Now, the farmers sending milk to New York city in the winter don't realise more than 3½ cents per quart, and have to take certain risks in regard to surplus milk, and I question very much, from investigations I have been making among farmers living within a radius of one hundred and fifty miles from New York city, whom I met attending the State Boards of Agriculture of Connecticut and Massachusetts, whether they net $1.40 per hundred for their milk right through the winter. So, you see, in the middle of Ohio, hundreds of miles west of New York city, Mr. Gould is doing better than the farmers who contract milk for New York city, and the farmer sending milk into New York has to pay very much higher for cotton-seed meal, gluten meal and other things than it costs here. I also found out last winter, after many inquiries, within a radius of twenty or twenty-five miles of Toronto, that no man was able to feed cows at less than an average of 22 cents per cow, while some, within eight miles of the city were paying as high as 30 cents per cow for feed. You will see that at 14 cents per gallon it would be impossible to do more than pay the feeding cost with the milk obtained from their cows. I think Mr. Gould's results are extremely encouraging, and I hope the farmers present will follow the example he has presented to them.

The President introduced to the members present Mr. Pearce, of London, stating that he was perfectly well acquainted with the seed corn spoken of, having sold thousands of bushels of it during the last year.

Mr. Pearce said he had no knowledge of the corn other than that gained in handling it. He had sold last year 126 car loads. There was no doubt in his mind that the silo had come to stay, or that the men who took hold of it would lead the dairy business of the country.

A Member—Where do you get this corn?

Mr. Pearce—It is imported from the south, and is called the Mammoth Southern Sweet.

The Convention then adjourned until the evening.

EVENING SESSION.

Upon re-assembling at 7 o'clock, Prof. Robertson delivered the following address:

BUTTER-MAKING.

I want to tell you how butter fat is made; that is, the substance from which butter is produced. The fat of the butter of commerce is produced in the cow from her feed in what is called the cow's udder. There are really two glands which lie touching each other lengthways of the cow—longitudinally, and the milk is elaborated in these glands. These two glands vary in size, and are not connected in any way; a fibrous partition divides them, and one gland can be separated from the other without rupturing either of them. These glands—because there are two—are supplied with arterial blood, which comes in by two large arteries down into the upper part of the udder (illustrating with large drawing). One branch goes backward and furnishes the perinæum, and then both send branches throughout the whole structure of the udder. Alongside the arteries lie veins, and almost between the two lie the nervous cords about as thick, in those I have examined, as the lead in a common pencil. I suppose there may be a million of strands in each. I do not know how many, but I judge that many, probably more. These arteries branch very often and minutely, and diffuse blood throughout the whole of the internal structure. The substance of the udder itself is of a reddish gray when the skin is taken off. In cows not giving milk the appearance is yellow, because of the accumulation of fat deposits in that part. If you begin from the bottom of the udder you will find four teats. I sometimes get badly puzzled, though not often, in the class-room, and I was puzzled one day by a strange question, though a very simple one. A student asked me this question, and I would like some one here to answer it for me: Why does a cow have four teats and not three or five?

A Member—That would be odd, remember.

Prof. Robbrtson—Why should it be even rather than odd?

The President—Because the Lord didn't build her that way.

Prof. Robertson—Then why? Well, there are lots of facts in nature that we have to accept as they are; just why they are so, we don't know. Now, at the bottom of this teat there is an opening, which is sometimes too small, but can be stretched by the insertion of a plug. Now, that (pointing to diagram) is very much enlarged; make a wooden plug like that just small enough and large enough to push inside the teat, so that this part will stretch the opening, and you will cure a tough cow in about four days. It should not be as thick at the thickest part as a common lead pencil. Inside the teat there is a canal, and that canal at the top can be closed by a valve as you can close the mouth of a cotton bag by pulling the strings in opposite ways. The cow can hold all the milk above there. From the top of that reservoir rises a great many tubes—they call them the lactiferous ducts—which carry the milk from the place where it is made down to this reservoir above each teat, from which it flows into the pail, or the calf's mouth. Now, these ducts rise in an irregular direction, and branch into very small tubes, gradually becoming smaller as they extend back from the teat, each one ending at last in a bulb-like sac. The whole interior of the udder is full of small sacs, called follicles, and measuring one-thirtieth of an inch in diameter. Blood from the arteries surrounds every part of these and apparently—now this is only apparently—it trickles through the capillary ducts and oozes into the inside of these sacs, being changed in some measure in the passing through. I think the albumen of the blood, which is a substance like the white of eggs, has been changed into casein, which thickens in the curd when rennet is used. I think the albumen has been changed into casein by this transudation. If a cow is excited or unhealthy you find far more albumen in her milk in proportion to the casein, which, to my mind, indicates that the change has not been complete.

Mr. Gould—Did you mean albumen in the milk, or in the blood?

Prof. Robertson—More in the milk, and less casein in the milk in proportion to the albumen, showing that the change has been incomplete. Then on the inside of these follicles or vesicles are innumerable cells, each one a complete cell. When the milk is being elaborated by the cow, the end of each cell seems to swell or enlarge and form a bulb, and when that is almost perfect it drops off into the inside of these vesicles. Each bud so formed is a bud of fat, and that is the source of all butter from cow's milk. These tiny buds of fat form on the ends of these cells, partly by the destruction of these cells and partly by the conversion of the albumenoids in the cow's food into fat. These trickle down in the milk, and are in suspension, not in solution as the other solids in the milk are. Now, these trickle down and come last in milking, because they do not move so quickly as the liquid part of the cow's milk. The cow's milk is thinner at first than at the last, because the fat globules do not free themselves from the internal lining of those tubes so quickly as the liquid milk does. If you find a man sending milk to a cheese factory who is of so modest and retiring a disposition that he will not keep at home the first milk the cow gave, but always the last, don't trust his modesty too far, for his modesty and his honesty will be found not at all in the proper and desirable proportions. The condition of the cow's blood and her nervous system very largely affect the quality of the milk she gives. Bad feeding, improper water or the absence of salt will induce in a cow a condition in which she will not give good milk, and the same condition may be caused by neglect, exposure, abuse or excitement; the cow will give less milk, and especially less butter fat. A cow has this peculiarly delicate organization and must be handled with kindness, and any men who beats a cow beats out the profit, for she will pay him back by giving him less milk and that of a poorer quality. The globules I have spoken of are so numerous that if you take a quantity of milk not larger than a thimbleful you will find in it millions of globules, a thousand millions of specks of fat in each sample of milk not larger than one cubic inch. From these specks of fat the butter that we use is made. Now, to get these specks or globules of fat out is the problem for the butter-maker. They are too small to be strained out with the finest strainer, fifteen hundred of the largest of them placed side by side in a row would measure no more than one inch. Now, how can the butter-maker get them out? If I take a vessel full of water and put in it some iron filings, where do they go? To the bottom; they are heavier than the water. I put some sawdust in and it comes to the top. Now, if you put fat globules in they come to the top. They are lighter than water. If I have a can full of milk they will come to the top, because they are lighter than the milk. You can't make some farmers believe that cream is lighter than milk. Now, why does it come to the top? Because it is lighter. But what, after all, is the force which brings the cream to the top? Well, it is not pulled up at all, but the heavier parts of the milk are drawn down by the force of gravitation, which is constantly pulling all particles of matter towards the centre of the earth. Now, if you have a heavier part in milk, like the serum, composed of water, casein, sugar, albumen and some other things, and some power pulls them down, as they are displaced the cream globules are forced up from below, not pulled up from the top. They are forced up by the pressure of the heavier particles which are drawn down. We have two methods of separating these fat globules from the milk; a natural method and a mechanical method. In the natural method we only use the power of gravitation to pull the heavy part down; in the mechanical we merely put a cylinder into very rapid revolution. And what does that do? We have availed ourselves of a new force. If you are driving fast in a buggy the mud from the wheels will fly upwards (outwards from the hub) instead of going straight down; that is the result of centrifugal force. If you put milk in a rapidly revolving vessel the heavier parts will fly outwards, forcing the lighter particles of fat inwards until the heavier portions are all outside and the lighter are forced in toward the centre. In this way the water, casein, sugar, albumen and other heavier portions of the milk find their way to the outside of the quantity being treated in the revolving vessel, while the lighter globules of fat are concentrated around the centre. Now, this is the law, that the cream travels in an opposite direction to the force exerted upon the milk, whether the force be that of gravitation or revolution. Now, if you set ordinary milk in a deep-setting cream pail and leave it at a temperature of about 60 degrees, it will take these small specks of fat from four to eight days at the rate they are pushed up to get to the top. Now, how can we help to move them a little quicker. In this way, either by carrying them to the top or by lightening the load, they have to carry. If they have to get up we can help them either by carrying them up or lightening the load they have to carry up. First, how shall we carry them up? By putting the milk into this can at over 90 degrees temperature the milk is slightly enlarged in bulk; at 90 degrees the milk is larger in bulk than at 50, being expanded by the heat. Now, having the milk at 90 degrees, and by putting this deep setting pail in a tank or other receptacle of cold water, the cold water will cool the can and the can will cool the milk, and as soon as the milk becomes cool it contracts a little bit, and by the contraction becomes heavier, and begins to travel down faster. Well, that is not carrying the cream up, you think. The very same thing, gravitation, pulls this down around the outside, and these particles must force the cream up from the inside. Then you have, you see, by a temperature falling from 90 down to 40, a circulation established, which will carry these fat globules that way in twelve hours, and when they come to the top they stay there; they are not carried down again. There are other aids to this, but that is a simple explanation of the reducing of the temperature, which establishes a circulation and assists in the rapid separation of the cream. In that way you can get nearly all the cream to come to the top in twelve hours. You will notice that that has certainly an advantage over a shallow pan, like this. (Illustrates). In this case you have the whole surface of the milk exposed to may-be impure air; you have no circulation, and there is a tendency for the milk to become sour, and there is the difficulty in skimming it clean without taking some of the skim milk with it. Now let me pass from that and speak for a moment of what takes place after the separation is effected. The cream itself is only that part of the milk into which the globules of fat have been gathered in large numbers. Cream has no stable or constant per cent. of fat; it will vary all the way from 8 per cent. to 75 per cent. of fat, so that you may have in a hundred pounds of cream only 8 pounds of butter or you may have 75 pounds. Now, you have a cream can, we will suppose, and you have it full of cream; then you have merely a great many more of these specks of fat than you had before in an equal bulk of milk. These have to be got out of the cream. You cannot this time cause them to go from the top by coming from below, because they push against each other, and you cannot get them up. Well, how shall we get them started now? Some man, a long time ago, before Abraham's time, learned that by shaking you could shake them together, and then lift them out. Some kinds of milk do not allow of that very easily. These globules of fat have no skin, any more than a drop of water has a skin when it falls on a clean table—no more than drops of quicksilver have skins when they fall on a table and separate into a number of small globules. But in the fall of the year, and in winter time, that part of the milk which we call casein, the albumen and the very small percentage of what is called fibrin, will gather around the outside and hang on to that globule, and sometimes will cluster around so thickly, like gum coating, that they will weigh it down to the bottom and keep it there. When the cream does not rise it is due to that kind of thing. Now, if you have these jackets on the globules, and they won't come up to the top on account of the weight, wash them off. Put a quart of warm water into every pail of milk, stir the whole quantity around, the water will wash these jackets off, and the globules become so light that they come to the top. In the same way, if you have a pail of sweet cream put some water in the cream and stir it all around. The action of the water renders it possible for these fat globules to come together. You will have made friendship between them rather more possible, whereas if you do not use water there will be stand-offishness, and they will never get together and shake hands at all. The next treatment required is to develop some acid, which will still further reduce the gummy nature of these coats, and enable these things to come through, splitting their jackets and coming together easier. If you churn a given quantity of sweet cream, and the same quantity of sour cream of the same quality as to composition, you will get from the first only 77 pounds of butter out of every possible 100, while the latter you will get 97 pounds out of every possible 100; that is to say, by churning cream thoroughly sour as against that which is sweet you get 97 as against 77 pounds of butter. Then if you have sweet cream here and sour cream there, and a big churn, and put the two together in that churn, and go on revolving it right off, the sour cream will give butter quicker, and you will get practically all the butter from this cream. If you go on churning three quarters of an hour more you will get some from the sweet cream. But you do not think to do that and so run all this off into the butter milk. This does not pay, and there are thousands of pounds of butter lost in our province from putting two qualities of cream into the churn together. The only safe plan is to have all the cream for one churning thoroughly mixed for twenty hours before the churning commences. Having the cream properly prepared as to its sourness and viscosity—that is the name we give this sticky quality in cream—the churning is to be effected. Now, the churning is merely performed for the purpose of causing these small globules of fat to strike into each other, and by their impaction unite. If you get two globules to strike at the proper temperature they will unite, and if you get a hundred of them to strike they will stick in the same way, and so on until you get them all together, and then you can stop churning. It is a very simple thing to state, but it is not so easily understood or applied. Now, you will have some excellent discussions on butter-making to-morrow. Our inspector from the west has a paper dealing with the subject, a capital paper I believe. I want to explain this one part, the theory as I understand it of churning cream at a temperature suited to its condition. You have these globules of fat in suspension in the milk—to enable you to understand I will again give you an illustration. (Makes diagram on blackboard.) Suppose I have here some melted lard, and run it through this funnel into this tiny spout, with a good deal of pressure behind, and make it strike upon this (showing on diagram), it will dash into a spray—you understand that—and will be diffused in very small particles. If I allow them to fall upon ice cold skim milk you see I have made an emulsion. That is the way I explain it to you. Since that lard is in those very tiny specks I want to churn it out. If I take that ice cold milk and put some of it in a fruit jar and shake it I may shake from now until doomsday; until the water is warm the lard only breaks into finer fragments; the longer I shake it the finer becomes the emulsion. But if I get it so that the lard is soft and not hard I can churn the lard out inside of two minutes. That is churning lard out of milk. Suppose I had some syrup here, and ran the lard into syrup instead of milk, and began to shake it in the syrup, the syrup is so gummy and sticky, and has such viscosity that I may shake forever but cannot shake the lard through the syrup But if I take a small quantity of this and put some water with it, and go on diluting it, then I can churn the lard out of it. In that way you have the temperature and the quality of viscosity to contend against, or to provide for. Suppose I learn the proper temperature at which to churn the lard out, and some day a man plays a trick on me and puts some tallow in here, and the tallow runs through melted, I have a jar of tallow emulsion, but at the same temperature as before I go on shaking the mixture, but the fat will not churn, because I have tallow instead of lard. But if I know I have tallow I raise the temperature a few degrees and have the tallow as soft as the lard was, and I churn the tallow out. All that is required in the churning of genuine cream is to have the serum or medium properly treated by the addition of water and the action of acid, and with these globules at a temperature of 57 or 59 in summer time, rising as high as 62 to 66 in winter, you will be able to churn all the available butter fat out of the cream. It is imperative that you should have a thermometer to reveal to you the correct temperature at which cream is being churned. In making butter you need to proceed with scientific accuracy, using suitable utensils and reliable instruments. Having these it is possible on the ordinary farm to make good butter ; therefore go on making all the good butter you can on your farms in the winter time, and then as soon as many people do that, start a creamery in the winter, raise the best stock and make fancy butter.

The PRESIDENT.—And you will become rich, contented and happy.

MILK TESTS FOR ADULTERATION.

Dr. Thomas Macfarlane, Chief Analyist of the Inland Revenue Department, then addressed the meeting on the above subject, illustrating his remarks by a highly interesting series of experiments explanatory of the Gravometrical system of milk testing, as practised by the Inland Revenue Department for the detection of adulterated milk. He explained that under the present conditions it was impossible to give a thoroughly complete demonstration of the system, but would feel happy at any time convenient to meet the members at some large cheese factory or creamery—and he felt sure his Department would willingly concur in his doing so—and give them a more perfect and practical illustration of the working of the system.

FRIDAY—MORNING SESSION.

The President having called the meeting to order, the following paper was read by Mr. J. GOULD, of Aurora, Ohio, U.S.A.

THE DAIRYING DEMANDED BY THE TIMES.

The rapidly changing condition of things witnessed " here below " is no less actively at work in the dairy. So noticeable are these changes, that the methods and systems of dairying demand frequent readjustment to conform with the times; for the dairyman who would succeed to-day, must put himself not only in full harmony with the times, but must become as well a student, and even a patient investigator of the principles that underlie and to a great extent govern and contribute to his success.

At the start let us see if we in the last thirty years have not drifted very far from the then supposed established customs. Take the year 1856, the initiatory year of my appearance as *help* in the dairy. The dairy itself was *native*, thoroughbred in unknown breeding. They were strangers to a barn or stable. In the winter they slept in the woods, were foddered from the stack, milked in the open yard, and went dry full five months of the year. It is needless to say the first produce sold from the dairy in the spring was cow hides. Not that this kind of dairying was extremely profitable, but it did give the farmers something to sell, and this paved the way to trade. It is needless to trace the growth of improved dairying up to the present date. I do not feel as I stand in the presence of the notable dairymen before me, that what I may say shall be considered in the line of teaching, but rather, one dairyman talking with another, for the common good of all.

While I have had more or less to do with dairying for forty years, I feel I am yet a student in the preparatory department, and I expect to get far more of value from you than you can possibly receive from me, even though I am Yankee from the ground up.

I said the rapidly changing condition of things was calling for new plans, customs and systems in the dairy. Now briefly let us consider for a few moments what some of the things that the "Dairying demanded by the times" call for. It first demands a dairyman in the full sense of the word. It calls for a man who is alert, eager to excel, and never content with low or even average results. It wants a man who is not only in sympathy with his vocation, but one who is attached to his business, and becomes an apt, enquiring, progressive student. By this I mean not only to investigate and watch progress, but a reader of our best dairy literature, and not set up his judgment and too often prejudice against government and state investigators and sound science as practised by our best dairymen.

Dairying demanded by the times calls for a definite object in view. The markets are now forming channels, so to speak, that demand special lines of goods, and the wise dairyman now selects one of these specialties, and bends all energies to meet the demands of that line of enquiry. So the dairyman who has no end in view, only using his dairy to keep him from the poorhouse, who has nothing but grass to sell when the market asks for fine butter, or still worse, has *nothing* to sell six months of the year when produce is high, will not succeed. He must have a dairy for a purpose; city milk, butter-making or factory requirement. Select the one most promising; build up from that idea, and strive to excel. The dairyman must soon find out there is a difference in breeds of cows to best respond to this demand, so he must dairy with a dairy cow, and not a combined animal, in which the characteristics of a steer are about as prominent as those of the cow. I have little fear that anyone here is yet clinging to beef production as a profitable auxiliary to dairying. No cow on demand can change the current of large and profitable milk giving to that of successful beef making, nor can any cow be so bred that any reliance can be placed upon her to transmit dairy qualities of desirable magnitude to her daughters, and mould and fashion beef performance in her sons. The two demands are not in harmony. The practical experience of thousands of farmers all over the world, is that he who would best succeed must combine with his energy and purpose, an animal especially bred and influenced for the work demanded.

Another argument is that a bar will always interpose between this combination, for until a pound of butter sells down to the level of a pound of beef fat on the hoof, just so long will it be unprofitable to put a ration into an unknown channel of direction that may make a pound of butter or a pound of beef, and run the chance of making very little of either.

The dairying of the times demands that this beef element in our cows shall not be considered or placed upon a basis with dairy production. So long as we put them on an equality, so long will we have low production and a market choked with tough two cent beef. What shall this cow be? I said, a type of cow adapted to the wants of our special market. I have no one breed to recommend. There are cows for butter, there are cows for standard cheese, and there are cows that give milk for the city market—pump included. The reading, investigating dairyman will make a study of the wants of his market, and make the supply accordingly. Briefly, my cow has a small bony head, bright prominent eye, that tells of brain power; a thin neck, a sharp backbone; ribs rafter fashion, instead of sprung on; broad hips; thin hams; and a high rump.

For signs of a milker, I want to see a muscular udder, not a fleshy one, and I want to see this udder of long attachment to the abdomen, to denote the power of absorption. I want strong arterial signs, because I now think milk is closer allied to the blood than the books lay down. I want her to have a large place to lay away food, a good heart action to pump blood through the system, nerve power to carry it on for years, and good lungs to purify the blood; and I want good pure air provided for the lungs.

It is now demanded that the sire of this cow shall have a dairy heredity behind him, for I think the influence of breed is more potent to secure good cows than luck in obtaining "sports" to keep up high average performance of a dairy. Dairying being an artificial continuation of the maternal function beyond nature's plan of calf rearing, the cultivation of this milk-giving habit should begin with calfhood. The calf should be fed cared for and treated as though already a cow, then when brought into the dairy, the first season's milk of that heifer should be prolonged as much as possible to promote the milk-giving habit.

The times also demand that successful dairying must always be conducted in close observance of the laws that govern motherhood, and they are—kindness at all points, suitable milk-stimulating foods, protection from violent changes, continuous warmth and quiet, disturbing as little as possible the nervous organism that is the controlling power of maternity and milk giving. I do not want a kicking cow, but I do like to see a cow with nerve and sand enough about her that if abused she will kick her abuser into the farthest corner of the barn, and kick so hard that when he arrives there he will comprehend that the cow had the best developed brain.

Dairying for the times demands that warm barns, and comfortable quarters be provided for the cow. Lumber and tarred paper are cheap, cow-ties are abundant, and if the stable is made warm and light the cow is made comfortable and there is little need of exercise. While she is giving her three gallons of milk per day she is having a strain upon her nerve power equal to the exertions of a trotting horse. Exercise is not as essential to a dairy cow as freedom in the stable, light, warmth and pure air.

The times demand a treatment of the cow akin to gallantry, best expressed by sturdy old Chas. R. Beach, when he said, "Speak to a cow as you would to a lady." The dairyman has a call to be a gentleman in every way, and not give daily exhibitions of brutal boorishness to show authority.

Dairying demanded by the times recommends that we shall equalise production, and dairy when the market pays us best for it, in other words, having " your dish right side up when it rains porridge." The consumption of the market is not greatly changed month by month, but we as dairymen go on and make two and a half times too much butter in the summer, and prices must rule low. How was it this winter? Why was butter high? Let it be what it may, those who had butter to sell profited by it. Will such a rise ever come in July? It is only ordinary business discernment that tells a man to dairy in the winter. Will it not be overdone? Why ask, when you are one of the million who are overdoing it in the summer? Why not take alarm in July, about an over-supply, instead of in January, when you are 90 days from having anything to sell to a profitable market?

The dairying of the times demands that milk shall be sold or proceeded with, not by what the milk weighs, but according to what it contains in milk solids. No one can make butter or cheese out of the water, or even the sugar in a cow's milk. Everyone admits that the milk of some cows is richer than that of others. If the forty pounds of milk of one cow has a pound more butter in it than is found in the forty pounds of another cow, the owner of the first cow should have the pay for that extra pound of butter, and not be obliged to give half of it to the other farmer, for they must share alike in the profits. This applies to all milk for whatever purpose used. The butter quality of a cow's milk, up to the standard of about 12½ per cent., determines its value for cheesemaking.

To-day there is not an instance of a cow that gives a larger per cent. of cheese in her milk than fats, but instances by the thousand are on record where the excess of solids above about 13 per cent. are butter fats, and so we find that a cow of large milk performance may be actually the poorest butter and cheese cow in the herd, and a cow of medium yield, as good as the best; so we say the times demand daily testing of milk and cream in associate dairying of any character, and the painstaking labors of our best investigators testify to it. Major Alvord went over the lists of the analyses of the milk of 1,000 cows, but did not find in a single instance where the casein predominated over the butter fats, showing that the special cheese cow beyond giving a large amount of balanced milk does not exist.

The dairying of the times also demands that we should find out about this new alleged dairy doctrine, that richness cannot be fed into a cow's milk. If this be true—that increase of feed only makes the cow give more of the same quality—we must find out how far this extra feeding for value can be carried, and not lose money. The records seem against feeding quality into a cow's milk. Now, if this is the case we must seek it in breed, and our dairymen must in this line become investigators. This seems to be true, that quality of milk is an inborn individuality of the cow, and is bred into her by her line of ancestry and not fed into her by her owner, else some of the cows of great yield of milk would soon be giving eight and ten pounds of butter per day. I now recall the tested performance of a great cow whose daily yield ran up into an almost fabulous quantity, some 94 lbs., but it was only more of the same kind of milk, and never went above cheese 2.72, fats 3.16, or 5.88 of available solids.

The times demand that the dairyman finds out what each cow in his dairy is doing, not only weighing her milk daily, but putting it to the churn test, to find out its per cent. value of butter fat. The weight of milk is quite as unreliable as the indication of cream in test tubes. When put to an absolute test, it will be found that profitable honors rarely go to the big cow, or the one of large yield; and one cow with another, it will be found that the medium-sized cow with a medium-sized mess of standard milk, but good for 300 days, is the one that makes the dairyman his profits. The tests of the dairy exhibits indicate this. The big cow is pitted against the little one, and the little cow is behind an ounce or two of butter. The food of production the same, but the food of support as 3 to 5. But the honors go to the big cow, because she will some day have a big hulk of third rate beef to sell, that has cost—if our feeding tables are half-way correct—about one dollar per pound. The dairyman's true test is, what will two cows do, weight of cows, amount of food consumed, and dairy produce made, not from the milk of the two combined, but each tested separately, cow against cow, pound for pound, produce against produce for food consumed.

The times also demand that the dairyman becomes a close and economic feeder of stock, to get the greatest amount of produce for food consumed, and that food shall be in cost reduced to its lowest limit. The truth is, in the States about four acres are required to summer a cow, besides her grain, and the wintering requires about two acres more of meadow, and yet more grain, in all six acres of clear land, ten bushels of corn, one ton of bran, and some oil meal for the yearly support of a cow. Can not this be remedied? It cannot be by following old plans, and the soiling crop in some form must come at some point. Now, what shall this crop be, and how secured? "He is going to bring in the silo now isn't he?" Yes, I am, when I can demonstrate that on an acre of land I can raise feed enough, so that by buying $15.00 worth of wheaten bran, I can keep one cow 456 days on one acre. I have a right to say that the times not only demand cheaper feed, but has furnished the means to supply it. I do not go to the books or papers, or take hearsay reports, but to-day on an ensilage ration that costs me less than 1½ cts. per day, per cow, and 5 cts. worth of bran for each, my dairy sells me over 30 cts. of milk for each cow. Nor is this a select dairy either, for on last Thanksgiving day they were delivered to me, a car load lot, bought in Indiana. On this ration they give me about 11 quarts of market milk each per day. The silo has solved this for me. I can make milk cheaper in the winter than in the summer, and what I am doing five thousand other dairy farmers are doing,

The times demand not only a better cow, as you see, but a good barn, and then cheap food, and an abundance of it. It does not pay to stand in one's own light in this matter. The world does not pay anyone anything to decry progress, or give conceited airings of prejudice.

The captain of the great Hudson river ferry boat cares little for rowboat competition, that cries: "The big, new steamboat is a dangerous craft." So our great dairymen east and west, of whom I could name a hundred, go right along building silos, adding to their dairies, and making money, caring little for the fellow who feeds dear hay to a dry winter dairy.

The dairying demanded by the times asks for co-operation, not the co-operation that takes in a speculator for a partner, but a dairymen's co-operation in and of themselves. Nor should this banding together be other than to promote the dairy interest, encourage honesty and integrity and foster progress at every point, each working for the interest of the other, discharging all jealousies and underhanded attempts to rob and defraud each other, but striving to be broad-minded, far-thinking dairymen. The arguments for co-operation are well-known: The massing of the material of a locality, the uniform production of a superior quality, and meeting the market demands with what it asks for and in sizeable amounts such as will attract customers. Hire the best help and pay them living wages. Make it a matter of pride that you furnish the best, and be willing once a day, week or month that what you furnish may be put to the test of its value. Stand above asking that your 3 per cent. fat milk shall sell for the same as the milk of your neighbor who has 4½ or 5 per cent. milk. Make that good milk from your dairy. Live up to the rules and don't be frightened if some one dubs your creamery, "A little trust." Make the butter and cheese so good that the buyer can trust himself to buy it "sight unseen." Such co-operation is possible with men, and will pay, but if co-operation is a banded attempt to cheat each other, and in turn put low grade produce upon the market, ask for the appointment of guardians at once, and permanently retire from dairying.

The times demand that the dairyman should make what the market calls for, and as the consumer wishes. Do not dairy by your idea of a standard, but find what high grade produce is, and how made, then make that kind. There is no special demand for soap grease butter or skim cheese, nor does the market call for buttermilk butter, made from actively sour cream and salted with barrel salt. It does ask for the mildly acid cream butter, washed and moderately salted, placed in the market fresh, and the fresher the better. Long-keeping butter is not in demand now, but it is the kind that is traded out at the store. It never sells for money and comes in competition with oleo when it reaches the market. A lady told me once she would color her butter green if her consignors so ordered, if it brought five cents per pound more. That five cents would be for the consumer's paid pleasure and her extra profit, with no investment in capital.

Keep watch not only of the dairy papers but the market report, and see if the lower grades of butter are even boomed for a rise; compare the top quotations for a year, and average the steady 5, 8, 10 cent quotation at the bottom, and see if there is any profit in putting good material in poor produce. Become a business man. Venture away from the shore once, and when once away you will find no desire to return.

Dairying for the times demands working for reputation, not for yourself alone but also for your locality. This means that a locality shall have largely a certain line of produce, and strive for the best, and attract the consumer even though you have to advertise.

Why should not the dairymen advertise their business to attract attention? Why not advertise lines of fine butter and cheese, as well as stomach bitters or rheumatic remedies? To illustrate: Not a cheese dealer but knows that Monroe county, Wis., is the great manufacturing center in this country for Limburger cheese. Why? Because they have made a specialty of it. Jefferson county, Wis., is noted for its fine butter. It sold its butter in 1887 at an average of 23½ cents per lb., and Sank county, in the same state, by each farmer making butter as he best saw fit, without reference to the butter demand of the market, sold its butter for 9½ cents. One had made reputation by intelligence, the other knew it all and got its pay for its self-constituted knowledge by selling its butter at 14 cents less per pound.

The dairying demanded by the times asks for a general elevation of its output of butter and cheese so far as quality is concerned. The markets of the world will at the present rate never be glutted with fine goods, but are more likely to be submerged with inferior produce. Take our butter crop in the States, a billion pounds and over. How much brought top prices? Not four hundred million pounds. Why did two hundred million pounds go to increase the stock of the cheap grease men? Why was our market flooded with poor cheese? Greed of the makers. This needs a remedy. It is the dairyman who is suffering from these things and he must supply the remedy.

We milk 15,000,000 cows in this country, and make 400,000,000 lbs. of cheese—about what a million good cows should make; 15,000,000 cows to make a billion pounds of butter—less than 70 pounds per head. Can we, as dairymen, afford to keep 15,000,000 cows to do the work that 7,000,000 should do? We eat 100,000,000 lbs. of oleo in this country. Do we do this to enable us to ship butter abroad? No, for we ship very little. Do you ask why? Because we cannot make good butter enough to supply our own home demand, and it will not pay to ship the poor. So we make soap, etc., of 200,000,000 lbs. and eat 100,000,000 lbs. of oleo.

England last year paid 26½ cents for 277,000,000 lbs. of butter brought from Denmark and Holland to make good her wants, while we threw away almost enough, if made No. 1, to have supplied that want, and returned to us, as dairymen, the modest sum of over $70,000,000. In this I think the increased demand for dairy produce will come from the butter side, and is increasing each year. The cheese supply is about up to the wants of the market, and not materially increasing. So we have to make what we do make better, as we add to our dairies Put the skim milk into veal and bacon-pork, and build up a market for fine veal and pork that is not all lard.

The dairying of the times demands its educational feature made prominent. Its dairymen must be made intelligent. I am not one of those who are inclined to think the farmer and dairyman is robbed above all others. The energetic dairyman is never at a loss for freedom. Relief from poor cows, poor butter, high priced feed, competition, etc., will not come from political enactment. No legislature can make a cow give more milk, make her ration cheaper, or make the acres produce more. This is the result of the active brain of the farmer. He who surmounts all these has no need of state help, aid from syndicates, or a bounty on what he produces. The greatest of all taxes a man pays, and the most galling yoke he wears, is his own ignorance and lack of business discernment. C. R. Beach, the noted dairyman, once said he "never thought about his taxes, the oppression of capital, the wrongs of syndicates, and the monopoly of railroads, unless some one came along who wanted office and told him about it." So just as we lift the dairyman up, and make him intelligent, and alive to his own interests, and make him an investigator, just so soon will the oppression and monopoly that weight men down, disappear.

To this end, the best literature must be circulated. There must be more meetings of dairymen, not only the state association once a year, but the local one once a month, and the creamery men and patrons every week if they want to. Now the dairy school and conference are coming to the front, where ways, methods and systems can be made plain, where free tuition can be given, and its scholars, if proficient, can be graduated and given credentials. Whether these schools should be state or national, I do not care. Let us have them—a hundred of them if needs be—only make them effective and useful, and when we get started let us have custom as strong as a statute law, that a man who runs a public creamery or factory shall be a graduate of this school. Make them so that one who is proficient and well up in the art can graduate with very little loss of time, but have his skill mark a certain level of proficiency. Europe is already dotted with these Government schools. Even Finland, up under the Arctic circle, has six, and the result is that by this educated excellence of produce, Europe is occupying the prominent place we should be fitted to fill.

The times are each day demanding better butter, and until the farmers supply that demand, the fates strike deep at the roots of the profits of the poor makers, and those elfins of the air, "the Brownies," through the makers neglect, sour the milk, make bitter the cream, and destroy the flavor of the butter. They work it into a salve, they eat out its color, and even force this man to exchange this butter at the grocery for codfish, pound for pound. Yet this butter is the peer of the practices of the oleo men. The one man refused understanding, and the market furnished him with low prices, for this butter deceives no man. The other is born of darkness and uncleanliness, made to wear the garb of respectability, but inwardly it is a compound of decomposition and should be made by law an outcast, else in time its greed will swallow the earth.

Finally the demands of the times have so far resulted in this noticeable progress: It has given the dairymen of 1889 a better farming, because its one great specialty shall make a special money crop, and hence the other revenues of the farm are not consumed wholly in making a "live of it." It gives the dairymen an insight into a principle he must familarise himself with, and that is, that there is an underlying principle that governs rather than *luck*. The last can never be other than a hit and miss occupation, in which the tally scores far more on the miss side. It has demonstrated to him that the farm can be made to produce very largely the cheap and abundant rations needed for his dairy, and because cheap, abundant and home grown, there must be a profit in dairying if intelligence is exhibited in management. It has made it possible for the farmer to become a manufacturer, and put the gross growth of his farm into a finished product ready for consumption, and leave the residue of manufacture to enhance the fertility of the farm.

It makes the freight rates of small moment to him, as the freight-car that carries but a few hundred dollars worth of grain, carries thousands of dollars worth of butter and cheese. To-day co-operation has been carried to such a point of perfection that I doubt unless great difficulties present themselves, if a valid agreement *can* exist for the continuation of home manufacture of butter and cheese, therefore I place co-operation among the demands of the times. The present year shows in full vigor of active development, the Dairy Association, dairy fairs and dairy conferences, and a promise of the coming dairy school ; these must have a marked influence upon us as dairymen. If we see that, the times demand of us every assistance in our power to make each in its place successful. The times demand that the dairyman step out into the bright, clear light of intelligence, and prove himself worthy of this attention, and gain beside the meed of victory, for victory must always perch on the standard of those who do and dare for progress, honesty, purity and justice. The times will demand for these, a final and lasting triumph.

AUDITORS' REPORT.

The following report of the auditors was then read, and upon motion adopted :

Receipts.	$ c.	Expenditure.	$ c.
Balance from last audit	249 54	Expenses of Directors' meetings	221 50
Members' fees	83 00	do Executive Committee	26 00
Government grant	1,500 00	Prof. Robertson, instruction accounts	434 00
Prof. Robertson, refund, salt inspection	56 00	Mark Sprague, instruction accounts	187 97
		James Cheesman, travelling expenses	84 95
		M. Moyer, secretary-treasurer	65 00
		Auditors	10 00
		Printing and advertising	62 35
		Postage and stationery	33 70
		Rent of tent and expenses at Kingston	52 70
		Grant to Kingston Exhibition	100 00
		do Toronto Industrial	100 00
		W. A. Frost, stenographer	35 00
		Letter files	4 00
		Addresses	23 00
		Cheque to R. J. Graham, treasurer	407 18
		Balance in secretary's hands	41 19
	$1,888 54		$1,888 54

We have examined the above accounts and vouchers produced and certify the same to be correct.

James Davies,
W. H. R. Allison, } *Auditors.*

Picton, January 10th, 1889.

ELECTION OF OFFICERS.

The report of the Nominating Committee was submitted as follows, and on motion duly made and seconded, adopted :

For President: D. Derbyshire, Brockville. *For First Vice-President:* John Hannah, Seaforth. *For Second Vice-President :* Jno. Sprague, Ameliasburg.

Directors : No. 1 division, Thos. McDonald, Morrisburg ; No. 2, Ira Morgan, Metcalfe ; No. 3, James Miller, Spencerville ; No. 4, W. T. Crandall, Picton ; No. 5, Robert Philp, Cadmus ; No. 6, James Davies, Toronto ; No. 7, J. T. Brill, Guelph ; No. 8, V. E. Fuller, Hamilton ; No. 9, J. S. Pearce, London ; No. 10, Aaron Winger, Ayton ; No. 11, Erastus Miller, Parkhill ; No. 12, Archibald Wark, Wanstead ; No. 13, John Zinkann, Wellesley.

Executive : D. Derbyshire, T. J. Brill, Prof. Jas. Robertson ; James Davies, V. E. Fuller, John Hannah.

REMARKS BY THE PRESIDENT.

President Derbyshire thanked the members for the honor done him in again electing him to the honorable position of first officer of the Creameries Association of Ontario, which he held to be one of the greatest honors to which a man could aspire. He was much pleased to be associated with the gentlemen chosen as directors and members of the executive, and with men of such sterling worth and extended knowledge as his co-adjutors looked forward to a year of unprecedented progress in all matters appertaining to the highly important butter-making industry.

DELEGATES.

The Committee on Resolutions brought in the following, which were carried unanimously :

Moved by Prof. Robertson, seconded by Mr. T. J. Brill : "That Messrs. Derbyshire and Morgan be appointed delegates to the Ottawa Conference to be convened for the purpose of organizing a Dominion Dairy Association.

"Resolved : That the President and Secretary of the Ontario Creameries Association be appointed delegates to the Farmers' Central Institute of Ontario.

"That Messrs. John Hannah and J. S. Pearce be appointed delegates to represent the Ontario Creameries Association on the board of the Western Agricultural Fair Association, with power to add three members of the board to their number as a local dairy committee, to promote the interests of creamery butter at the annual exhibition.

"That Messrs. Derbyshire and James Davies be appointed delegates to represent the Ontario Creameries Association on the dairy committee of the Toronto Industrial Association, to promote the butter interests of the dairy department.

COMPLIMENTS TO A RETIRING OFFICER.

Mr. WINGER.—I cannot allow the present opportunity to pass without moving that the thanks of this Association be heartily and unanimously tendered to Mr. James Cheesman, for the energetic, intelligent and faithful manner in which during the last two years he discharged the onerous duties of secretary of this Association. While feeling the deepest regret at losing his valuable services, we cannot but congratulate him upon the important position he has been chosen to fill, as secretary-treasurer of the New England Creameries Association, and I feel confident that our loss will be the gain of that association.

Mr. MILLER seconded the motion.

The PRESIDENT.—Personally it is a matter of much regret to me that we cannot retain the services of so valuable an officer as Mr. Cheesman, who was beyond all question the most efficient secretary possessed by any society in the province. His services in assisting us to carry on the good work we have in hand would have been of inestimable value, but as we cannot retain them I am delighted to have this opportunity of expressing my conviction of his worth, and am sure Mr. Wenger's resolution will evoke the utmost enthusiasm on the part of the members of this association.

The resolution was carried unanimously by a standing vote.

Mr. CHEESMAN.—I have to thank you very much, Mr. President and gentlemen, for the passage of this resolution and the kindly remarks which have accompanied it. If it is not out of place I will at this time avail myself of the opportunity of referring to the cordial reception we have met in the town of Picton, which must be most gratifying to all. It gives we much pleasure that our esteemed friend the Mayor of Picton has been added to the board of directors, because the town has taken such a deep interest in these meetings and our work, working indefatigably to secure for us a good meeting. When the funds of the Association have sufficiently increased to warrant your sending down into the American district your board of directors, I shall be happy to show them some of the best dairies we have, and shall at all times be gratified in having an opportunity in connection with my duties there to render any service in my power to the members of the Ontario Creameries Association, individually or collectively.

REPORTS OF INSTRUCTORS.

The reports of Instructors were then submitted to the Convention. That of Robtert McCarthy for the Western district was as follows :

INSTRUCTOR McCARTNEY'S REPORT.

GENTLEMEN,—Upon receiving notice of my appointment as instructor for the Creameries Association of Ontario, and having decided to undertake the duties connected therewith, I accepted the position and in due time began the work of regular inspection.

The following places were visited regularly, they are named alphabetically: Ayton, Amulree, Armagh, Breslau, Brucefield, Clinton, Chesley, Chatsworth, Collingwood, Cedarville, Dobbington, Durham, Dromore, Deemerton, Elmwood, Essex Centre Formosa, Haysville, Holstein, Kirkton, Londesborough, Owen Sound, Penetanguishene, Parkhill, Roseville, Seaforth, St. Jacobs, Teeswater, Wyoming, Walkerton, Wanstead, Whitechurch.

As has been previously said, many of these creameries could be greatly improved at slight expense, and many of them are evidentaly aiming at putting their premises in better shape and making them more convenient in every way. The Creameries at Chesley, Dobbington and Durham, are new altogether and well arranged. During the past season, however, the progress as a whole has been satisfactory and I have no doubt every coming year will see it still advancing towards perfection.

I am informed that there is a constantly increasing desire on the part of private consumers, such as boarding-house and hotel-keepers, to obtain their butter direct from some creamery, and some of the creameries now supply many of such consumers. This of course cannot be encourged more than it ought to be, as everything ought to be done to cultivate such trade.

I found the water generally very good, but in some cases scarcely fit for working with. This is a matter that should always be well looked into before establishing a creamery, and I hope that it will be in future, but in too many cases it is neglected, and the water will of course be used, such as it is.

The increase of pure bred dairy stock continues, which is very gratifying. Very many Jerseys, Ayrshires and Holsteins are being added to the herds of the different patrons with satisfactory results.

Every year brings fresh proof of the necessity of some substitute for grass, during the hot weather in July and August. Every one knows how creamery operations languish in the middle of the season, by the shortage in the food supply for the cows. Some system should be decided upon by the Association as the best, and it should be made known, and the different patrons should adopt it and give it a fair trial, and report their experiences, and if not advisable and satisfactory, some other plan should be tried, until by actual experience they arrive at what they consider to be the best, the cheapest and most economical in every respect.

Creamery education is a very important matter, and cannot receive too much consideration. It has until now received too little. It should be more systematic and thorough. Something should be done to prevent so many makers going out, and so many new and inexperienced ones coming in, or in other words some means ought to be planned and adopted, that would have the effect of good and experienced makers being retained longer in their positions in the various creameries, as every change of makers produces a change of butter. It might be supposed that proprietors in their own interests would contrive to retain a good maker, but whatever is the reason there are too many changes in this respect.

I submit herewith a few hints upon butter-making.

Patrons Handling Cream.—I find that the majority of farmers have discovered that by setting their milk at a high temperature they get a better showing per inch from the test churn, but they have not taken into consideration that what they gain in that way they lose in the amount of fat left in the milk.

For instance, patron No. 1 has 4 gallons of milk which he sets in a common shot gun can holding that quantity, at a temperature of 60° Fah. The cream is raised in 12 hours, say 2 inches, and yields 19 ounces by test churn, at 16 cents per pound, this would bring 19 cents for the 2 inches of cream.

Now take patron No. 2 with the same quantity of milk in the can, the same size and shape, who sets his at say 45° Fah. He would have 4 inches of cream, which would make by test churn 14 ounces to each 2 inches, or 28 ounces for the 4 inches. Taking such quantity at the same price as the other, 28 cents would be realized, a net profit of 9 cents; and not only that, but the quality of the butter is better than No. 1. Again, the teamster takes the cream from No. 1 at a temperature of 60° and No. 2 at a temperature of 45°. On a warm day each of the above will rise in temperature 15°, No. 1 arriving at the factor at a temperature of 75° from which it is impossible to make a first-class article of butter, while No. 2 arrives at the temperature of 60° and in a fine condition, and when properly handled in the factory will make a first-class article. This is another gain for No. 2, whose butter is worth at least 2 cents per pound more than that of No. 1.

With regard to ice I would recommend that all patrons put in a good supply of ice, and use it so that they can raise their cream at a low temperature, instead of raising it at at a high temperature for the sake of saying they have a big test, and thereby injuring the quality of the butter. I would recommend also that a bulletin be issued to all patrons showing them their error in desiring big tests, thereby destroying the quality of their butter and that they are the losers.

The Oil Test Churn.—I have found in my visits to creameries that this churn is giving general satisfaction where in use, and I would recommend that a test be made every time that the cream is gathered, to avoid dishonesty.

Butter-Makers Handling Cream.—All butter-makers know that when cream arrives at the factory, the different loads will vary in regard to ripeness, some being sweet and some sour. Now everyone should endeavor to get all the cream as nearly equally ripe as possible in the different vats, and each vat should contain, as nearly as possible of course one churning, neither more nor less. The cream should be stirred and brought to the proper ripeness for churning at a set time in the morning. If, for instance, the day is hot, and the cream when brought to the factory is at a temperature of 70°, the makers should place ice around the vat and stir the cream till the temperature is down to 50°. The water and ice should then be removed so that the whole mass of cream may keep at a uniform temperature, whereas by leaving the ice and water around the vat, the cream in the centre of it will become riper than what is next the sides and bottom, when by taking the ice away the cream has a chance to ripen uniformly, and by its being uniformly ripe it can be got uniformly churned.

I would not of course advise any butter-maker to work upon or go by fixed rules, for the cream may not require the same treatment to-day that it would to-morrow. To-day you may have to lower the temperature, while to-morrow you may have to raise it. You must use your own judgment, taking into consideration the temperature both inside and outside. And you must try and churn each and every day with your cream at or as near the proper ripeness as you can possibly get it. This is one of the most important points in butter-making—the proper treatment of the cream.

The Churn.—I found in my visits, with the exception of two or three factories, that the makers were running their churns at too slow a rate, and taking from 2 to 3 hours to churn, when it should take only from 40 minutes to 1 hour at the outside. The effect of this was that their butter was in a terrible mess, being soft and salvy, without grain, body or flavor, and it being in that state it was impossible for them to remove the buttermilk without over-washing, which gives it an insipid taste, taking away that very flavor which butter should possess, and it had the appearance of over-worked butter before being placed on the workers.

I showed them where they were wrong, and instructed them how to build their pulleys and to run their churns faster, and upon my next visit I found that they had done so, and they expressed themselves as very well pleased with the result, their butter coming firmer, taking very little water to free it from the buttermilk, and having a good body and keeping qualities.

The whole of which is respectfully submitted,

ROBT. McCARTNEY.

INSTRUCTOR SPRAGUE'S REPORT.

Mr. Sprague, Instructor for Eastern Ontario, read the following report:

MR. PRESIDENT AND GENTLEMEN.—Having been requested by our worthy secretary to prepare a paper on creamery inspection for the present convention, I shall endeavor to discuss the subject in as brief a manner as possible. It is a rather delicate matter to enter a creamery, being a total stranger to the operator, and say that which as instructor one considers to be his duty both to the operator and the Creameries Association. During the past season I found it extremely difficult in some cases to do my duty and at the same time make myself welcome, but looking after the interest of butter-making was preferred rather than having an enjoyable time.

There were eight creameries in operation last season in Eastern Ontario, the field extending from Oshawa to Camerontown. The buildings, with two exceptions, are nicely situated and painted, showing a marked difference between them and the ordinary factory for the manufacture of milk. One very important point which I am sorry to notice has been overlooked, is regarding an even temperature in the general making-room, as there are but two plastered or double boarded (ceiled). Of the eight creameries, seven are run by what is known as the centrifugal system and one by cream gathering, Four have cold storage, the temperature of which in July at the time of my visits was about 45°. Two have ordinary storage at about 68° and two had no storage, their butter being at the mercy of the weather. The water, generally speaking, was good and free from taint, clear and plentiful. There seems to be a universal desire among butter-makers to work with about an inch of water on the making-room floor which is very disagreeable to themselves. It gives the place a slovenly look, and keeps up a moisture that is not needed to make fine butter. Besides, the callers that may favor them are not thoughtful enough to bring their long boots. Cleanliness is next to godliness, and is a strong point toward success in the manufacture of good butter. I found two creameries running under great difficulty, one requiring 29½ lbs. of milk the other 35 lbs. for a lb. of butter, which was due to want of knowledge in operating their separators, as the milk showed 3¾ per cent. of butter fat.

There is more butter injured while it is in its cream state than at any other time. There seems to be no desire on the part of the butter-makers generally to properly ripen the cream. It is put in the cream vat or pails as the case may be and left until churning time with little or no care as to proper ripening. If the day should be warm it is over ripened and *vice versa.* In preparing to churn the cream is dipped in the churn and then tried as to temperature. If found too warm cold water is added until the proper point is reached. I saw cases where nearly one-half of the churning consisted of water, and the butter obtained was, as always is in such cases, soft and measly. I am glad to inform you there were some exceptions. I found extreme variations in quality of butter, caused nearly always by some oversight or neglect on the part of the maker, for which he generally received a lecture and to the point. It would be useless for me to enumerate the defects to which I refer, as it would occupy too much time. I formed a butter-makers' scale of points, after one of Mr. Cheesman's with but very little alteration, and on my visits kept a close score for each creamery. The highest score was 84 and the lowest 55 points out of a possible 100, and from returns of sales received the butter seems to have been sold on its merits or by maker's *score card.* Salt used was of good quality, the majority being English make. It may not be out of place for me to say that there are Canadian brands of salt which are up to all the requirements for the manufacture of butter or cheese. The rule which I recommend in choosing salt is that it be clean and free from specks, even sized in grain, easily and thoroughly soluble, dry and white, and the grains flat rather than cube shaped. Avoid that which has a yellow or grimy appearance or attracts moisture enough from the air to appear wet.

There was one feature of the business which I was pleased to know was making rapid strides in the right direction, and that was the desire of some makers to present their butter in the choicest possible manner at the nearest town or city for home consumption. This was done by putting the butter into half-pound and pound prints or rolls, so as to please the eye and appeal to the optical sense as well as to the palate. All here will agree with me that this goes a great way in securing good prices. Others, however, adhere to the old-time method of stowing the butter in the largest package known to the trade, and crowding it to its utmost capacity. This excludes light and even air, and the latter is an important factor where butter is intended for long keeping.

MARK SPRAGUE.

Mr. PIERCE.—What brand of Canadian salt do you prefer?

Mr. SPRAGUE.—Well, sir, I don't know that I have any particular authority to answer that question. I have no interest in any salt establishment, so if you follow my directions you will have my choice of salt, and that is my best answer.

Mr. G. B. CHRISTIE.—With regard to high and low temperature, does that mean that the milk placed in the vat is to be of a low temperature, or the water it is placed in?

Mr. SPRAGUE.—The water it is placed in; the milk should be as warm as possible, or, in other words, put in the vat as soon as taken from the cow.

SMALL PACKAGES FOR ENCOURAGING HOME TRADE.

The following remarks were make by President Derbyshire on the above subject:

We have found by experience that butter must be put up to please the customers you desire to supply, and this last season has shown us that the small round boxes or pails paraffined on the inside so there would be no woody flavor and have a bail on each, to hold five, eight and ten pounds, suited our customers the best of anything yet attempted. By taking care to have the butter the finest, put up in this way carefully, every pound of creamery butter made in Ontario can be sold at remunerative prices to the local trade. This is very important, and from what I can learn the coming season we will not be able to nearly make the quantity required for our own trade, providing our creamery men wake up. Quite a few new creameries are being started, others will be larger and I trust better facilties for turning out a fancy article, and more of our creamery men are waking up to the fact that they must sell this choice butter when it is in its best condition. We want in Ontario four times the number of creameries. We must have those already in operation twice as large as now. The proprietors thus encouraged would have everything in first class shape so that a finer quality and more quantity can be more economically produced from a given quantity of milk. Some in our section have put their butter up in two pound rolls, and have boxes that would hold twenty-four of these rolls, with a small square in the centre of the box for ice, and with a lid on so that the box can be returned by express and refilled. This works very well, but I do not think it as good as the paraffined pails.

I want you all to have some man in every consuming centre, who will shove your butter to the front; we must take hold of our creamery butter business in a systematic way, so that our friends may be sure that we are in earnest and determined to supply them with the finest goods at all times, and they will not find fault about the price. I am convinced that we must build our creameries so we can handle the milk in the winter, for our dairymen with their silos, well filled with green corn, comfortable well ventilated stables, cows adapted for our particular line of business will demand it, while our custo-customers who have been regularly supplied through the summer, want the same treatment in the winter; and then we require the money. No man can say that our climate, our soil and water, and the inhabitants of this first province of the Dominion are not admirably adapted to producing the finest butter in the world; and you know if we do make the finest butter, and hold it in unsuitable cellars until it has lost its fine rosy flavor, we cannot succeed. In short, this is exactly the way we have lost our trade, lost our reputation, and millions of money to this fair province of ours.

Let every man connected with our business do his best to regain our proper position, and the way to do this is by shoving our butter forward the next day after it is made, to our customers. We have tons of common butter, highly salted, poor flavored, miserable stock, begging a market, at half what fancy creamery, put up tastily would bring. I do hope that this coming season will be the most prosperous we have ever had, on account of putting more brains into our business, cheapening the cost of production, making finer goods than ever before, having exactly the package, size and style, that our customers will pay the most money for, and sell every week without fail, and you will be surprised at the quantity you can sell, and the prices we can realise for our goods. It is no use saying more at present on this subject, only I would like to stir you up to do your full duty, and if this is done we all know the results will be correct.

I thank you very much for your kind attention, and trust that you will all be doers of the word and not hearers only.

COMPLIMENTARY RESOLUTIONS.

Moved by the President, seconded by Mr. Cheesman: That this Convention expresses its warmest thanks, which are due and hereby tendered to the Mayor of Picton and his colleagues for their efforts in securing such large and enthusiastic audiences, and their generous conduct in entertaining the members of the Association.—Carried.

Moved by R. J. Graham, seconded by John Sprague: That the thanks of the Association be and are hereby tendered the press for reports of the proceedings, and the interest manifested in the work of the Association during the past year.—Carried.

Moved by Mr. Ira Morgan, seconded by Mr. A. Winger: That the thanks of this Association are due and hereby presented to the ladies for their attendance, and the deep interest manifested by them in the work.—Carried.

Moved by Jas. Hannah, seconded by J. T. Brill: That the thanks of the Association are due and hereby tendered the railway companies for reduced rates.—Carried.

CLOSING REMARKS.

The President.—We feel greatly indebted to the Mayor and the good people of Picton and Prince Edward county, for the very warm reception given this Association, and on their behalf I thank you very much. Prof. Robertson and Mr. John Gould have more than filled our expectation. Dr. Macfarlane added materially to our meeting; altogether I am delighted with our meeting at Picton, and think it will mark a new era in our creamery business in this province.

The meeting was then adjourned *sine die.*

BINDING SECT. AUG 2 3 1967